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THE PROGRESS OF SANITATION

FEW movements devoted to the well-being of the community have met with a greater measure of success than the efforts of sanitary reformers and public bodies to improve the sanitary conditions of our towns and cities and the dwelling houses of the people. The investigations and experiments which have been made for many years past with the object of improving the public health have greatly increased our knowledge of sanitary science, and have shown that the best way to fight disease and reduce the death rate is by improving the sanitation of our towns, and by securing clean and pure surroundings for the fit and healthy. Though much remains to be done, there can be no doubt that great advances have been made not only in our sanitary knowledge, but in its practical application, and anyone old enough to remember the narrow and dirty and badly lighted streets of 50 years ago, the condition of our rivers and streams, the nature and source of our water supply, our sewerage and drainage systems, our imperfect drains, and above all the general ignorance of hygiene, will admit that there has been a great spread of knowledge during the last half century, and the passing and administration of some very wise and beneficent laws.

The subject is not a popular one, but its importance has long been recognised by Parliament and local bodies, and no doubt in consequence of the epidemics which periodically ravaged the country in the early part of last century various sanitary Acts were passed, but it was not until the year 1875 that the well-known Public Health Act of that date became law, and from that time increasing attention has been given to the subject in all parts of the world. One important result of the passing of this Act was the establishment of a society which has worked assiduously ever since in the cause of sanitation in all its aspects, and which has had much to do with the interest now taken by the general public in sanitation and hygiene. We refer, of course, to the Royal Sanitary Institute, whose Jubilee Congress is being held this week in London, as reported elsewhere, and who have issued in connection with the Congress an interesting history of the Institute, with special articles on the progress of sanitation during the past fifty years. It is interesting to note the terms of the resolution passed at the meeting at which the Institute was formed, *i.e.*, "That in the opinion of this meeting, the sanitary condition of this country is still very unsatisfactory, and that further legislation is necessary with a view to its improvement. With this object a society be now formed to be styled 'The Sanitary Institute of Great Britain'." The history of the Institute is told in some detail, and tribute is paid to the work on its behalf of such men as Dr. Lory Marsh, who may be regarded as its founder, Edwin Chadwick, C.B., B. W. Richardson, F.R.S., Vivian Poore (one of the founders of the Parkes Museum), Dr. W. H. Corfield, Rogers Field, M.Inst.C.E., Douglas Galton, Baldwin Latham, M.Inst.C.E., Lieut.-Col. Jones, V.C., Ernest Turner, F.R.I.B.A., E. C. Robins, F.R.I.B.A., H. Saxon Snell, F.R.I.B.A., T. W. Cutler, F.R.I.B.A., and many other men of note distinguished in various professions. When the Institute was started, the science of sanitation was in its infancy, but since then a determined and, on the whole, a successful campaign has been conducted against ignorance and a great movement started which has done much for the material and moral welfare of the community. The objects and aims of the Institute are still applicable and indicate past and present activities.

According to this Jubilee Review, these aims and objects have been of a multifarious character. One of the ideas in the formation of the Institute was to promote the effective co-operation of the several professions and interests connected with Public Health, which accounts for the interest taken in its work by distinguished representatives of various professions, and the presence at the annual congresses of representatives of so many public bodies. The need for the education of the general public, no less than that of the professions concerned in the development of sanitary service, has been kept steadily in view, and there can be no doubt that the publicity given to the proceedings of the annual congresses, the exhibition of sanitary appliances held at these congresses, and the lectures given in London and the provinces on subjects affecting the welfare of the public, have created a public interest in hygiene and public health which might have been lacking, but the creation of which has helped to form a public opinion which has pressed for and supported new health legislation and local schemes of sanitary improvement. One of the first steps taken by the Institute was to improve the status and training of the local surveyors and inspectors of nuisances, and to hold examinations for the granting of certificates of competency. Fifty years ago these officers of local sanitary authorities had had little or no training for their work, and were often men without any experience of building or engineering. The examinations were first held in London in 1877. After some years it became apparent that suitable training courses for the candidates about to sit for the examinations would form a desirable adjunct to the scheme. Such courses were first instituted by the Council of the Parkes Museum in 1885, and were taken over by the Sanitary Institute when the Parkes Museum was incorporated with the Institute in 1888.

Reference has been made above to the exhibition of sanitary appliances held in connection with most of the annual congresses and the claim is made—and in our opinion not without reason—that on the whole there can be little doubt that the rapid improvements in technical construction of domestic and sanitary engineering appliances which characterised the latter part of the last century were due in some measure to the facilities afforded by these exhibitions for intercommunication between the makers of these goods and the medical and architectural and engineering experts acting as judges of the exhibits, while the public learnt something of the advantages to be derived from the installation of modern sanitary appliances in their homes.

This History of the Institute contains several interesting articles by those who have been closely connected with its work, from which can be gathered the nature of the improvements in sanitary appliances and the developments in sanitation which have taken place during the last 50 years. Mr. H. Percy Boulnois, M.Inst.C.E., describes the sanitary conditions previously prevailing and the improvements which have since been made; Sir Henry Tanner, C.B., deals with the architectural aspect of the sanitary progress made; while other contributors deal with the Parliamentary and Legal aspect; Public Administration; the Overseas Dominions and Colonial aspect; and finally, military Hygiene and Sanitation, a specially interesting retrospect by Col. Melville, C.M.G., M.B.

The great Public Health Act of 1875 has had far-reaching results, and it can be safely asserted that those responsible for it, enlightened and far-seeing as they were, cannot have realised to the full the beneficent results that were to follow, in the reduction of the death-rate, the prolongation of life and the healthier and happier condition of the people; but, marvellous as the results have been, there can be little doubt that in the next half-century even more will be accomplished. "Sanitas sanitatum; omnia sanitas."

NOTES

Birthday Honours.

THE honour of Knighthood is so rarely conferred upon a member of the architectural profession that the recognition in the present honours list of even a distinguished architect will come almost as a surprise—not that the honour has been conferred, but that it is so belated. To his brother artists, the work of Sir Herbert Baker, A.R.A., F.R.I.B.A., is well known and appreciated, especially his new Delhi and South African buildings, though we must not forget his war memorials and domestic work erected in this country, and the important work he is now engaged upon in the reconstruction of the Bank of England. The profession appreciates the force and breadth of his designs and their suitability to environment, and few, if any, will fail to agree that the honour conferred upon him in recognition of his services to art is a distinction which is well deserved.

A Well-Deserved Honour.

THIS well-deserved honour is paid to one who has, in a sense, given the profession of architecture in South Africa a real status. What Sir Herbert Baker has actually done himself is notable enough, but his influence must have profoundly affected the doings of others. The influences exerted by each of us are so subtle that we are hardly aware of them. But as we look back over past years we can now see that Cecil Rhodes did more than we have quite realised. If there had been no Cecil Rhodes, whose appreciation of the work of Mr. Herbert Baker gave him his first great chances, one wonders whether we should have been able to congratulate Sir Herbert Baker to-day.

The Gold Medal for Sculpture.

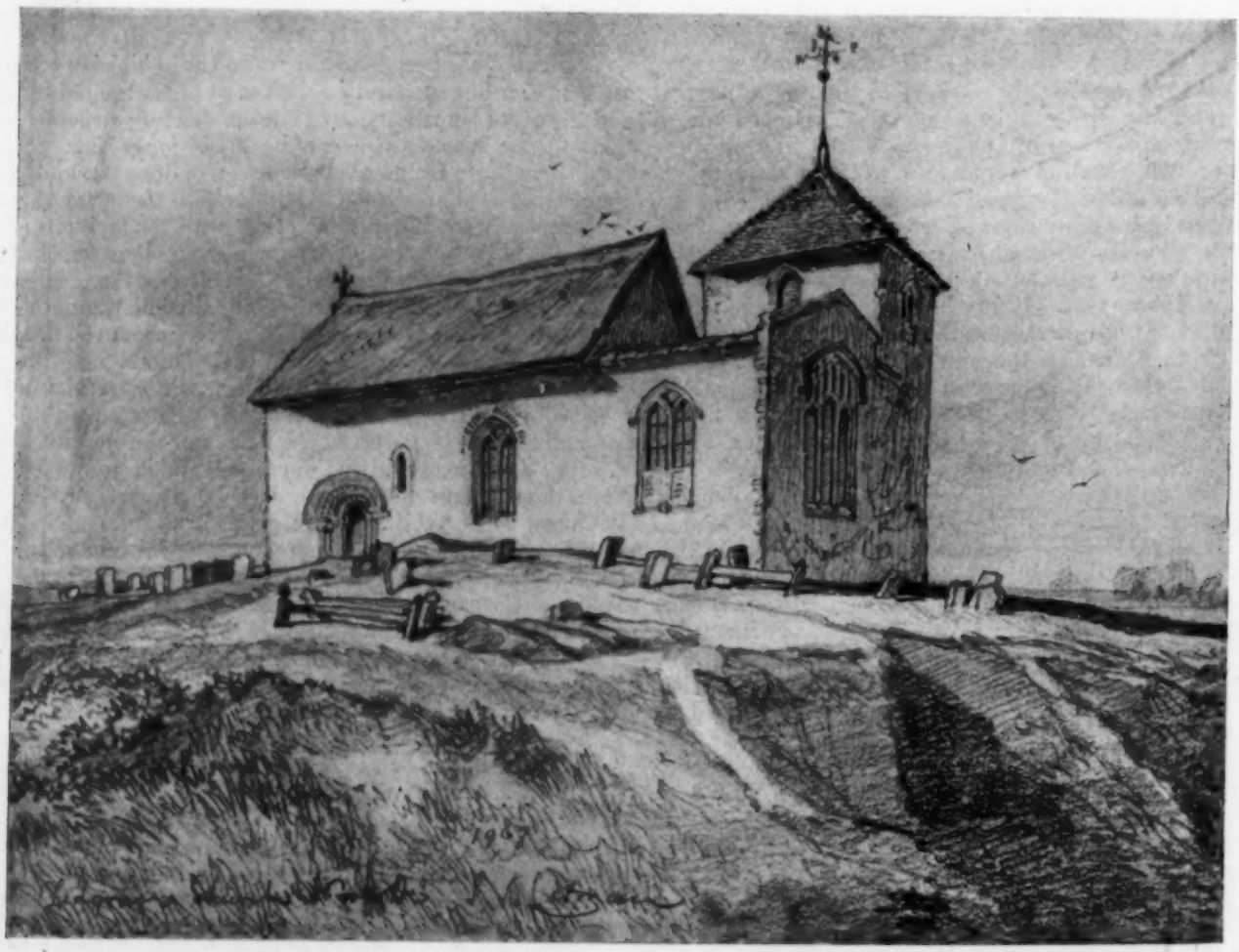
OUR congratulations to Mr. C. S. Jagger, A.R.A., on the award to him of the Gold Medal of the Royal Society of British Sculptors for his Artillery Memorial at Hyde Park Corner. The Medal is given for the best work of the year exhibited to the public in London by a British sculptor. Mr. Jagger's powerful memorial immediately captured the imagination of public and artists alike, and the award is therefore one that will give general satisfaction.

The Foundling Hospital.

WE should like to second the appeal for an opportunity to see the treasures of the Foundling Hospital made by Mr. E. Beresford Chancellor. It would be a great boon if the public were given a short time to go over the building and grounds and to see the remarkable collection of pictures, sculpture, MS. and other relics of a bygone day. It is with feelings almost of exasperation that lovers of London have to view the prospect of these beautiful grounds and buildings passed over to the tender mercies of the money-makers. That such a key position to the improvement of London as the site of the Foundling Hospital should be handed over to those who only desire to make profit out of it is a painful contemplation. We wonder if the far-seeing wisdom of the Royal Commission on the bridges of London will extend to a consideration of this valuable oasis in our wilderness of bricks and mortar.

The Nelson Pillar, Dublin.

WE published in our last issue a letter from Mr. O'Rourke, City Architect of Dublin, criticising our remarks on the Nelson Pillar, Dublin, in our recent leading article on National Memorials. Evidence of public approval of such proposals as the demolition of the Nelson Pillar can only be obtained from the columns of the Press, and from what we have seen in the three most influential Irish papers, *The Irish Times*, *The Irish Independent*, and *The Irish Statesman*, it seems clear that the proposal is definitely unpopular since each of these three papers has, we believe, condemned it. The Press may not be a perfect guide to public opinion, but such unanimity is likely to represent the majority. As to the suggestion that it is a huge column supporting nothing (*i.e.*, a statue), and as such that it is contrary to the canons of good architectural taste, would Mr.



Chidgrave Church, Norfolk. From a Drawing by JOHN SELL COTMAN. At the Walker Galleries.

O'Connell-street and the Nelson Pillar, Dublin.

O'Rourke condemn the Trajan Column in Rome, the Monument in London—in fact, every commemorative column in the world—on these grounds? In regard to the sentiment, surely this cannot be restricted to personal feelings towards the individual commemorated? It is to the structure itself and its associations that we must turn for the source of sentiment. We went out of our way in our leading article to assert that the proposal was not due to political bias, and we see no reason why any kind of ill feeling should be awakened by a controversy that is purely practical and æsthetic. We did not mention the decision of the Royal Institute of the Architects of Ireland, as to the desirability of the removal of the Pillar because they emphasised its architectural merit and coupled the resolution with a qualification to the effect that nothing should be done until an alternative site had been decided upon. The whole force of our argument was directed against its destruction—a totally different thing.

An Irish Opinion.

On this question we take the following from our contemporary, *The Irish Builder and Engineer*: "In Dublin the removal of Nelson Pillar may be justified, or it may not. On traffic grounds no reason has yet been advanced as to any necessity for its removal. In point of fact, its removal would not affect traffic congestion by one or even one-tenth per cent. Were the Pillar gone to-morrow, it could have no effect in relieving traffic conditions, for in its place, in so wide a street, it would become necessary to establish refuges for foot passengers. For ourselves, we have in the past, advocated the removal of Nelson's Pillar, but only as part of a general scheme, because we believe its site to be unsuitable. But in our view, the removal of Nelson Pillar alone would be an anachronism, and one not to be defended on traffic grounds, save as part of a great scheme to remove all the other obstructions in the street, laying out a fine three-way thoroughfare bordered by trees. Obviously, too, if Nelson Pillar is to be removed, due provision should be made for its re-erection on a more suitable site. Merely to pull down the Pillar would be an act of vandalism so gross that we can hardly conceive of any public authority dreaming of it, still less of any public opinion, howsoever unenlightened, tolerating it."

Smoke Abatement.

In the recent debate on the Smoke Abatement Bill considerable disappointment was expressed that the Bill did not extend to private dwelling-houses, and that the attempt made by the Labour Government in 1924 was not being repeated; but we think the Minister of Health was right in saying that the solution of this question must depend upon affording a cheap supply of gas and electricity or the provision of smokeless fuel. A correspondent, writing on the subject, says: "The price of gas varies in various districts to an enormous extent, but, fortunately, it is usually lowest in the large cities where smoke abatement is the most important. A universal law would, however, work injustice, as the charges made by small municipalities are sometimes prohibitive. We can instance one case where a local authority is charging 16¼d. per therm, which means about 5s. 6d. per thousand feet, whilst in the neighbouring city the charge is not half that sum. Such charges make the heating of houses by gas impossible, except in the case of rooms which are only required to be heated for short periods, as, for instance, bedrooms. During the debate constant reference was made to the desirability of increasing the powers of local authorities, and one Member went so far as to suggest that powers should be given them to differentiate the rates on new houses where smokeless methods were adopted. But in many cases the local authorities, besides being the purveyors of gas and electricity, are also manufacturers, and themselves, at their works, are sometimes offenders in regard to smoke; and we are glad to see that the Bill contains powers enabling the County Councils to act if the local authorities fail to carry out the duties imposed upon them under the Act."

Staircase in New Duveen Wing, National Gallery of British Art, Millbank, S.W.
MESSRS. ROMAINE-WALKER & JENKINS, Architects.

GENERAL NEWS

Change of Address.

Messrs. Harris & Porter have removed from No. 7 to No. 16A, John-street, Adelphi, W.C.2. Telephone number remains as at present—Gerrard 6360.

Mr. Philip Tilden has moved his office from 59, Doughty-street to Morley House, 320, Regent-street, W.1. Telephone: Langham 4239.

Mr. Stephen Wilkinson, F.R.I.B.A., consulting architect to the London & North-Eastern Railway Co., has removed his head office to 21, Northumberland-avenue, London, W.C.2. Telephone: Gerrard 3898. He will practise from that address, with a branch office at Leeds.

New Bank Building, Edinburgh.

A new West End branch for the Royal Bank of Scotland has been opened in Edinburgh.

Statue of Marshal Foch.

A statue of Marshal Foch has been erected on the Somme, at the little village of Bouchavesnes. M. Michelet is the sculptor.

New City Sheriff.

Mr. Percy Shepherd, builder, has been elected as a sheriff of the City of London. He will assume office at Michaelmas.

Sir Charles Ruthen.

Sir Charles Ruthen has been compelled by ill health to resign his honorary appointment as Director of Housing in the Ministry of Health.

Spa Development Scheme, Leeds.

A scheme of buildings to take the place of the Royal Spa Rooms and estimated to cost £15,000, is being considered. It is proposed to provide a dance floor and a café.

Pontypool Road Scheme.

Pontypool Urban Council has resolved to promote a Bill to widen George-street and Park-street, and construct a by-pass road from Lower Crane-street to Osborne-road, at an estimated cost of £100,000.

New Laboratory, City of London Hospital.

The Prudential Insurance Company have agreed to pay the entire cost of building a new laboratory in the grounds of the City of London Hospital, in order to facilitate the hospital's research work.

A New U.S. Skyscraper.

Work has started recently on the building of the Book Tower, Detroit, which will be 81 stories and 873 ft. high. The Woolworth building, in New York, which is now the highest skyscraper in the country, is 60 stories, 792 ft. high.

Sheffield University Buildings.

Large extensions to Sheffield University buildings, together with a "Hobson Memorial Pavilion," to be erected at Norton, are to be carried out, the former from designs by Messrs. Gibbs, Flockton & Gibbs; and the latter from the designs of Mr. Harry Gibbs.

Memorial to Lord Kitchener.

A Kitchener memorial on Marwick Head, Orkney, erected by the people of Orkney, has been unveiled by General Lord Horne. It is a square battlemented tower, 48 ft. high, 23 ft. 6 in. wide at the base, and 18 ft. 10 in. wide under the battlements.

Bristol University.

Sir George Wills, Bart., Pro-Chancellor and Chairman of Council of Bristol University, has presented to the university the sum of £25,000 to be used with the £110,000 which he presented two years ago for the erection of a residential hall on the property of Downside, adjoining Durham Down.

Richmond Hill View.

Middlesex County Council has voted a sum of £3,750 towards the cost of acquiring the Orleans House estate, Twickenham, for a public open space. It is understood that when the estate has been acquired the London County Council will be asked to take over its administration as an addition to the Marble Hill grounds.

Warning to Architects.

The following warning is circulated by the Architects' Benevolent Society:—"Members are victimised from time to time by impostors who call upon or write to them claiming to be architects in distress. Members are advised before yielding to appeals of this character to communicate with the Architects' Benevolent Society."

An Engagement.

The following paragraph appears in the current issue of the A.A. *Journal*:—"We warmly congratulate Miss Isobel Chambers on her engagement to Mr. George Checkley, of the Liverpool University School of Architecture. We view with delight this tangible expression of the friendly relations which always exist between the A.A. and Liverpool."

R.I.B.A. Garden Party.

Members and Students of the R.I.B.A., the Architectural Association, and the Allied Societies have been invited to a reception at the Royal Botanic Gardens on Thursday, July 22, from 4 p.m. to 7 p.m. The guests will be received by the President and Mrs. Guy Dawber. The Band of the Royal Air Force will be in attendance, and a party of children from the Margaret Morris School of Dancing will give a display of dancing during the afternoon.

Extension of Venice.

A ministerial decree has proclaimed the annexation of Mestre and five other communes to Venice. Mestre will no longer be an independent town nor the last railway station before the Lagoon. It will henceforth be a suburb of Venice, which will thus again extend her jurisdiction to the mainland. The decision, it is reported, has created no small discontent in Mestre, while in Venice it is interpreted as the first step towards the widening of the old bridge in conformity with the plans already under discussion.

Sir Christopher Wren and the Old Ashmolean Museum.

The Council of the R.I.B.A. have decided to open a subscription list to enable members to contribute to the cost (estimated at £65), of placing a window in the Old Ashmolean building at Oxford as a memorial of Sir Christopher Wren. The design will be Sir Christopher's coat of arms in a cartouche to pair with the Ashmole Memorial Window. Members desiring to subscribe to this object are requested to send cheques or postal orders to the Secretary of the R.I.B.A., 9, Conduit-street, W.1.

SUBSCRIPTION LIST.

R. Langton Cole, F.R.I.B.A. .. £1 1 0

Shanghai.

We have received the annual report of the Shanghai Municipal Council, giving an account of the activities of the Public Works Department during 1925, from which it is seen that there was an increased turnover for building purposes, by reason of larger blocks of property being built, more plans having been approved than ever before, and the properties being the highest value since 1922. Several large substantially-built blocks of houses have been erected, separated by well-paved and lighted alleyways, in addition to which 8,966 new houses, factories and other important structures have also gone up, showing an increase for all buildings of 2,146 over 1924.

MEETINGS

SATURDAY, *July* 10.

The Society of Engineers.—Visit to the Barking Power Station. At 3 p.m.

London Society.—Visit to Lincoln's Inn, W.C.2. At 2.45 p.m.

WEDNESDAY–FRIDAY, *July* 14–16.

Auctioneers' and Estate Agents' Institute.—26th Provincial Meeting. At Leicester.

COMPETITION NEWS

New Catholic Cathedral, Liverpool.

Dr. Keating, Archbishop of Liverpool, has stated that a competition will be held in due course for designs for the new Catholic Cathedral which it is proposed to erect in Liverpool. The building is expected to cost £500,000.

COMPETITIONS OPEN.

Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors. 100,000 Swiss francs to be divided among architects submitting best plans. Programmes with R.I.B.A., 9, Conduit-street, where intending competitors should apply. Single copies from Secretary-General, League of Nations, Geneva, on payment of 20 Swiss francs	Particulars published in "Builder."	Sending-in date Jan. 2, 1925.
Buildings and lay-out of a new Cemetery abutting on Aylestone-lane, for the Leicester Corporation. Premiums: £100, £50, and £25. Mr. H. V. Lanchester, F.R.I.B.A., assessor. Apply City Surveyor, with deposit of £1 1s., payable to City Treasurer	April 16	July 12
Cenotaph, Liverpool. To be erected outside St. George's Hall. Premiums: 1st, £200; 2nd, £150; 3rd, £100; 4th, £50. Author of selected design will be paid commission of 500 guineas, to include premium. Professor C. H. Reilly, assessor. Second premium will only be awarded to ex-Service man	June 11	Sept 30
Council Offices and Fire Station, Purley. Coulsdon and Purley U.D.C. invite architects willing to enter this limited competition to send their names to Mr. Ernest C. King, Clerk to Council, Council Offices, Purley, not later than Saturday, July 10. Premiums: 1st, £300 (to merge in commission); 2nd, £200; 3rd, £100	June 25	—
Incorporated Architects in Scotland: (1) Rowand Anderson Medal and £100: City Art Gallery and Museum; (2) Rutland Prize (£50) for Study of Materials and Construction: (3) Prize (£10 to £15) for 3rd year Students in Scotland; (4) Maintenance Scholarship, £50 per annum for 3 years. Apply Secretary of the Incorporation, 15, Rutland-square, Edinburgh	Nov. 6	—
Royal National Eisteddfod of Wales, Swansea, Competitions: (1) National Parliament House of Wales (Prize, £100); (2) Street Facade to a Large Stores (Prize, £25); (3) Set of Measured Drawings of Architecture (Prize, £25). Apply for programme to publishers, Messrs. Morgan & Higgs, Heathfield-street, Swansea (1s. 2d. post paid). Mr. Arthur Keen, F.R.I.B.A. assessor	Nov. 6	July 12

The Late Professor Charles Gourlay.

We regret to announce the death of Professor Charles Gourlay, of the Royal Technical College, Glasgow, which has occurred in a nursing home. For many years he filled the Chair of Architecture and Building Construction in the College, and was one of the oldest members of its staff. Professor Gourlay was a prominent figure in all architectural and building circles, and many practising architects in Glasgow and the West of Scotland had benefited by his teaching at some part of their career. He was senior honorary president of the Architectural Craftsmen's Society. On the subject of the architecture of Glasgow he was an authority of high repute. He had devoted many years to the study of the architecture of Glasgow Cathedral, to other principal buildings in the city, and to the lives of the architects who were responsible for their design.

Professor Gourlay, who was 61 years of age, was a native of Edinburgh, but came to Glasgow at an early age. He held the degree of B.Sc., was a Fellow of the R.I.B.A., and a Fellow of the Society of Antiquaries (Scotland).

New Duveen Wing, National Gallery of British Art, Millbank, S.W.: Lighted Wall in Anti-Reflection Gallery.

MESSRS. ROMAINE-WALKER & JENKINS, Architects.

THE NATIONAL GALLERY, MILLBANK

LIGHTING OF THE NEW DUVEEN GALLERIES.

THE new wing added to the Modern Section of the National Gallery, which was opened to the public by Their Majesties the King and Queen a few days ago, is the result of a promise generously made by Sir Joseph Duveen in the early days of the war. A collection of the works of modern French artists was just being formed, and Sir Joseph offered to build the galleries which would be required to house them. His intention was that the building should be finished during the war and opened when peace was restored. As soon as the original plans had been approved by the Trustees and the working drawings prepared, it became necessary to postpone building operations until peace had been concluded. By the time the preliminary work had again been done, the estimated cost had risen to nearly three times the original figures, and it was reluctantly decided to wait until prices were somewhat more reasonable. The policy of deflation undertaken by the Government, coupled with the temporary stoppage of the subsidy on housing, brought prices to a level approximately twice the amount of pre-war building costs, and Sir Joseph decided to proceed immediately with three of the four galleries on the main floor originally contemplated, so as to complete the whole of the south-west front of the building.

His architects, Messrs. Romaine-Walker & Jenkins, had already designed the Turner wing, given by the late Sir J. J. Duveen, and Sir Joseph decided that the standard of decoration and finishings set by that wing should be carried through the new work. The simplified treatment of the style of the original exterior adopted in the Turner wing was continued, also the policy of utilising the deep foundations (which extend 18 ft. down through the mud of the Westminster marshes to the gravel overlying the London clay), to form a good range of side lighted galleries on the lower floor.

In the Tate portion of the Gallery, this floor had been designed as a heavily rusticated basement, with small deeply recessed windows having semi-circular arched heads, the lighting being so poor and the light so restricted that the rooms were useless for anything except offices, refreshment rooms, lavatories, and stores. By excavating another 5 ft. of the mud and replacing the small windows by large square-headed openings, a fine series of secondary galleries has been provided in which hundreds of water-colours, engravings and drawings may be exhibited, for which little or no room can be found on the main floor of a public gallery. When the Wertheimer portraits were presented to the nation, on the death of the late John S. Sargent, R.A., Sir Joseph Duveen promised a further great gallery to house his works, thus completing the building up to the line of the large sculpture gallery which will eventually form the main central focus of the plan.

The exterior treatment of this gallery has been still further simplified and sets the keynote treatment of the north-west front of the building. The great galleries on the main floor are an interesting illustration of the modern trend in architectural design to utilise the latest results of scientific research. Although England produced a series of scientists and inventors in the nineteenth century and inaugurated the age of the machine, the effect of this on architecture and building was deplorable. Factory production and machinery seemed merely to upset the fine old English building traditions, as neither architect, builder nor workmen thought of applying the new scientific methods of research to solving the problems set by the wholly new conditions of life—with its bewildering array of new requirements.

The building trade, as a whole, is intensely conservative. As Kipling's bricklayer says:—

> "I tell this tale which is strictly true,
> Just by way of convincing you
> How very little since things were made,
> Things have altered in the building trade."

Even the architect, who was supposed to do the thinking, preferred to follow tradition rather than think for himself. As a consequence, the nineteenth century saw all the new fangled contrivances—steel work, fire-resisting construction, electric lighting, gas, central heating, ventilation, arrangement for good acoustics, and sanitary work—left by the architect to the tender mercies of the specialist sub-contractor. These firms had all the English manufacturer's objections to the employment of first-class scientific brains to work out sound solutions of the problems involved, deeming the expense a waste of money. Consequently, the testing of systems and materials and the building up of exact scientific data which would form a reliable basis for design was left to America or Germany. The present century has altered all this, and English architects have realised that sound design must base itself upon the suitability of the building to its purpose.

There are several problems in the design of a modern picture gallery which call for decision, chief among which are the scale of the gallery walls, the lighting of the works of art, suitable backgrounds for them, heating, and ventilation. As is usually the case in England, opinion is divided on several of these points, many of the ideas being merely founded on the tradition by earlier gallery buildings.

In many of the earlier galleries, the practice obtained of hanging at least three rows of pictures one above the other, the walls being high and lighted by lanterns with solid ceilings and side and end lights, as may be seen in the old Dulwich Art Gallery. The lantern was usually low in proportion to the height of the walls, which were consequently under-lighted, and a somewhat gloomy effect was produced. The design was, therefore, altered by arranging a deep cove above the cornice, the whole of the centre of the ceiling being covered by a skylight. This made a much more cheerful gallery, particularly during the winter in London, but it had the defect that the floor is far more highly illuminated than the walls, and the spectator suffers from eye-strain—with its resultant headache—after spending some time in such galleries, this being further aggravated by lack of a proper system of ventilation. The Royal Academy Galleries are a good example of this type. To overcome this defect in lighting and attempt to improve the decorative effect, flat ceilings of ground glass were tried, the Suffolk-street Galleries of the R.B.A. being an example of this system, but the dirty London atmosphere and consequent difficulty of keeping the glass clean produces a most displeasing result. A compromise was therefore tried by which the centre of the skylight was made solid, the cove being retained. This appeared to be a good solution of the difficulty until the recent fashion of glazing pictures was started by the New English Art Club. The painter members of this Society found that by glazing their works, crudities in the painting were toned down and a brilliancy of effect was produced giving quality to the work which was lacking if the glass was removed. As it would have been impolitic to admit this, the idea was fostered that the London atmosphere produced deleterious effects, impossible to counter without the picture being glazed. That a good oil varnish laid on a year or two after the painting had been completed (to prevent its absorption by the pigments) can be a complete protection was proved by the restoration of Turner's oil paintings when they were removed to Millbank, the late Sir Charles Holroyd testifying that those treated in this way were in as perfect a condition as when they were originally painted. The glazing of pictures hung in public galleries results in the production of irritating reflections rendering it impossible to see clearly any dark or low-toned painting in any top-lighted gallery.

Before this problem was forced on the public attention by the letter to *The Times* of the late Frederick Harrison (who inquired whether it was the intention of the authorities to prevent people from seeing the exhibits in order to preserve them for a posterity who would also be unable to see them so long as they were glazed), the Tate Gallery had been built with curved ceilings with solid centres and straight sloping skylights, and the Turner Galleries had been completed on the same system, but with

Loggia in Anti-Reflection Gallery.

MESSRS. ROMAINE-WALKER & JENKINS, Architects.

curved lights to improve the architectural effect. The new Duveen wing was designed to be *en suite* with the Turner Galleries, but, after the war, Mr. Hurst Seager read his paper at the Institute advocating top-side-lighting, under which system the centre part of the ceiling was dropped, so as to keep the spectator in the shade, while the sloping skylights were placed at such an angle that the light passed at right angles on to the picture walls, the effect produced being that of a shady corridor running between brilliantly illuminated recesses. He also advocated the use of blinds over the lower part of side-lighted galleries to produce a similar effect. The critics of this system argued that you did not see the reflections unless you looked for them, and that people did not really go to a gallery merely to look at the pictures, but to admire the architecture and decorations. As a result the Trustees decided that the two new galleries of Modern French paintings should be built on the old system, H.M. Office of Works suggesting the widening of the solid centre of the ceiling to throw more light on the floor.

There was one advantage which ensued from this discussion, as to have carried out lantern lighting on a gallery of the Hurst Seager type would have resulted in producing a gloomy effect by comparison with the highly illuminated Turner Galleries, as may be seen by visiting the National Gallery, where the Dutch School Gallery has this effect, although the lighting is really more suitable for seeing the pictures, than the over-illuminated skylight galleries adjoining.

When the new Sargent Gallery was presented it was agreed that as it formed the first of a new range, a serious attempt to tackle the reflection problem should be made.

In Mr. Hurst Seager's typical section, the galleries are comparatively low, and owing to the leaning of the skylights at an angle of about 60 deg. a great deal of light fell on the floor. The height would have been hopelessly out of scale with the other galleries, and the floor illumination was bound to cause reflections, while in the tops of any large pictures the skylight would be reflected unless the pictures were tilted. To overcome these difficulties the architects decided to raise the height of the corridor portion, make the skylights vertical (increasing the height of the lights to give an equivalent lighting) with an overhang at the top and bottom of the lights to cut off nearly all direct lighting on the floor, so that the spectator stood *in the shade* and so produced no reflections. A perspective sketch of this design was submitted to the Trustees and approved, being enthusiastically supported by Sir Frank Baines, the Director of H.M. Office of Works. The architects, however, were impelled to point out that it would be necessary, for complete success, to divide the gallery down the centre by a curtain to prevent the highly lighted pictures on one wall being reflected on the other. The Trustees immediately raised difficulties, as they considered that architecturally this would ruin the effect of the galleries, although it was admitted that the system would probably be perfect for seeing glazed pictures.

The Sargent Gallery was therefore designed as now built, with lower walls and a very high lantern having a solid ceiling, the proportions being carefully calculated to throw the greatest light on "the line," the floor being much less illuminated than the walls. The architectural effect is doubtless finer than that of the gallery proposed, but the darker glazed portraits have pronounced reflections which could only be eliminated by a central screen of a dark colour.

Sir Joseph Duveen courageously decided that, as a narrower gallery—not on the main range—was also to be given by him, an experiment on the lines of the architects' design should be carried out, but so arranged that it should be "single," with a side arcade instead of "double" with a central one and a screen. A model was made and approved by the Trustees, which was then handed over to the lighting experts—Dr. Rayner and Mr. Walsh—of the National Physical Laboratory, Teddington—to test scientifically. They suggested slightly reducing the scale of the corridor in relation to the whole gallery and the building of a screen wall to prevent the cove over the lighted wall being too highly illuminated (this taking the place of the opposite vertical skylight in the original design). The gallery, with these modifications, has been built as Gallery XIII, and in it glazed pictures have been hung which it had been impossible to see elsewhere. The decorations—walnut columns, joinery, and parquet floor, brown silk damask, and a brown buff ceiling—have purposely been kept as low in tone and dark in colour as was possible without producing a gloomy effect. Until the spectator walks forward to settle the point, he believes the pictures to be unglazed, owing to the wonderful lighting and absence of reflections. So long as the policy of glazing pictures continues, and it is desired to see them properly, some such system must be adopted, and there appears no reason why a whole gallery building should not be designed on these lines, with all lights facing north, provided the great central gallery were a sculpture hall, having special lighting of a different kind to suit the statues, busts, and reliefs.

The lower galleries are, in effect, top side-lighted from one side, and form an interesting study of how the basements of our galleries can be fully utilised. By the use of screen lights in the upper part of the inner walls, white ceilings and friezes with silver paper to the high exhibition dadoes, white terrazzo floors, and white painted skirtings and joinery, a surprising amount of light has been got into the corridors, enabling minor works of art to be exhibited. The new building may, therefore, seriously claim to contribute towards a scientifically sound solution of gallery lighting.

As a plenum system of ventilation for introducing washed air has been installed, under which the atmosphere in the main galleries will always be cleaned and purified, it is hoped that the problem of eliminating "gallery headache" has also been solved. Arrangements have also been made, in tubing the galleries for electric lighting, which may possibly solve the difficulties of artificial lighting, when it is decided to open our public picture galleries after the daylight has gone.

The new wing, which is 110 ft. in length, completes the whole of the south-west elevation facing Atterbury-street, and is continued for nearly the same length along the road facing the gardens in the rear. The late Sir Joseph Duveen built the centre block of the façade and commenced the western half, which has now been finished. When the remaining galleries have been added, London will possess one of the largest art galleries in Europe, and, in fact, the largest gallery in the world devoted solely to modern art.

The new building is faced with Portland stone. The architects have endeavoured to give a simpler and more dignified rendering of the style set by the original part of the building without destroying the unity and harmony of the whole façade now completed. The fact that this side of the gallery is nearly 400 ft. in length has enabled an entirely different treatment to be given to the new angle pavilion, which, with its Ionic piers and columns, sets a key for the new north-west front, nearly half of which has been erected by the donor.

A series of minor galleries has been made on the lower floor, well lighted, and providing invaluable space for showing many specimens of the graphic arts, previously locked up from view in folios for lack of such gallery space. Altogether nearly 800 ft. run of hanging space has been added on this floor, the largest gallery being 72 ft. long by 22 ft. wide. On the main floor, four great galleries are added. Three of these—32 ft. wide—are 72, 63 and 32 ft. long respectively, the fourth being 72 by 24 ft. The first two galleries of Sir Joseph's gift complete the south-west range of galleries and provide an impressive vista as one enters from the original building.

A list of the contractors and sub-contractors for the work is given on page 48.

THE LIGHTING OF ART GALLERIES.

IN the course of a recent lecture on this subject at Christchurch, New Zealand, Mr. S. Hurst Seager, F.R.I.B.A., said that the usual type of picture gallery, whether lantern-lighted, sky-lighted, or side-lighted, was either a partial or a total failure, and that if it was desired to possess a picture gallery truly worthy of the name all precedent must be disregarded entirely, and they should be guided solely by the few and simple principles which govern the problem. The laws could be summarised as follows:—

1. To avoid reflections in the pictures from the source of light, the angles made by the lines from the source of light must be greater or less than the angles made by lines drawn from the eye of the spectator when standing in the most suitable position for viewing the picture. As this position would vary according to the size of the picture, the lighting suitable for large pictures requiring a distant point of view might be quite unsuitable for a small picture requiring a close point of view.

2. To avoid seeing in the pictures reflected images of spectators and objects in the room, the spectators and objects must be in a subdued reflected light, in marked contrast to the direct lighting which must fall on the pictures.

3. The darker the pictures the more brilliant must be the lighting upon them, and the greater the contrast between the direct lighting of the pictures and the reflected lighting of the room.

4. In order to obtain a brilliant light on the pictures, the pictures must be as close to the source of light as the other conditions will permit, and the lighting must not be obscured by secondary ceiling lights or glazing.

5. The pictures must be within the space formed by lines passing through the inner and opposite outer edges of the light opening.

6. The rays of direct and reflected light, which fell on walls and floors, must be absorbed by dark colourings.

Glazed pictures formed the crucial test as to whether or not a gallery was successfully lighted; but while unglazed pictures could be seen fairly well under conditions in which it would be impossible to see glazed pictures, they could be seen to far greater advantage under conditions absolutely imperative for glazed pictures.

The lecturer then gave an exposition of the top-side-lighted method and said that to be perfectly successful, the lighting must be so arranged that the windows on the right of the roof should throw their fullest light on the right wall, and those on the left, on the left wall. One example shown was that in which the width of the roof of the gallery was divided into three parts—the central part having a flat or curved ceiling, and the side portions covered with a pitched roof, with skylights in the inner slopes adjoining the central portion. By this arrangement the light would fall with full brilliancy on the outer walls, leaving the central portion in shadow; the central portion should be, therefore, a wide corridor, and the outer portions should be divided by partitions into wide bays, and the partitions should extend to the roof of the bays, so that the lighting in each bay might be independent. By the division of the gallery into bays, a large amount of extra well-lighted wall space would be provided. This system would provide twice the amount of well-lighted and suitable wall space as would that provided by a rectangular room of the usual form. Seats should be placed within the bays at the correct distance from the pictures; the great fault in all galleries was that the seats were placed in the centre, and the corridor, or thoroughfare, was between the pictures and the seats. The system of top-side-lighting could be carried out in various ways, and could be adapted to all usual forms of rooms, and was as suitable for museums as for picture galleries.

REGIONAL TOWN PLANNING

CONFERENCE AT GLASGOW.

WHILST Regional Town Planning in England has been enthusiastically taken up, in Scotland it has hitherto received very little consideration. For the purpose of stimulating action in this particular sphere, a conference was convened by the directors of the Third Garden City, Ltd., and held in Glasgow from June 22 to 24. A large number of delegates from local authorities and others attended and considerable interest was displayed. The need for Regional co-operation in Scotland, particularly in the central belt comprising the large industrial and mining areas and the intervening lands between the Clyde and the Firth of Forth and the Firth of Tay is a matter of real urgency, and the Conference has opened the way for the setting up of a Regional Council.

A number of very interesting papers dealing with the various aspects of regional and town planning were contributed. Mr. G. L. Pepler, Past President of the Town Planning Institute, read a paper on "Regional Town Planning," in the course of which he referred to the wonderful progress that had been made in England and Wales since 1919. It was not a new thing, he said, for local authorities to combine for specific purposes, and possibly the advantages derived from combination for particular public services had been one of the factors that had led people to see the still greater benefits that might be gained by combination for the purposes of establishing a comprehensive policy of development for a complete unit. In practically any large centre of population there would be found congestion of traffic, slum areas, derelict areas—business, industry and dwellings mixed in confusion, so that living conditions were intolerable and business efficiency was impaired, absence of open spaces or of places for out-door recreation general squalor and ugliness, merely emphasized by the relatively few decent buildings or prosperous streets. Day by day this would become intensified, and the inhabitants more and more embedded and mechanicalised and shut off from nature, if towns were allowed to continue to grow by accretions to the circumference, and if they did not plan out a programme of reconstruction to be realised in economical rotation.

Traffic delays were wasting enormous sums of money and time, and traffic caused great danger and discomfort. At the same time, there was a large amount of unnecessary travel, because things were in their wrong places. All that indicated the economic and physical necessity of reconstruction as part of a general policy of development on a regional basis. More elbow room must be provided in the centre, and therefore more room must be found elsewhere for what was displaced, other than that which was derelict or not used to the full. Also there was growth to accommodate. One suggestion for dealing with the overflow was decentralisation into self-contained garden cities or satellite towns. Another proposal was to develop continuously along the radial highways, leaving open the wedges in between. One advantage claimed for the properly planned satellite town was that the people could live near their work in pleasant and healthy surroundings, and much wearisome in-and-out travel to and from the centre thus saved. Also the traffic of their industries did not clutter up the streets and railways of the parent town. At the same time, the big centre, with its large opportunities for business, culture and pleasure, was well within range. As any general policy must affect adjoining authorities their co-operation should be enlisted immediately the question was opened, so that the policy might appear from the first as a regional one, and not as the proposal of a dominant party within the region.

They had, so far, discussed the question rather from the point of view of the advantage of regional planning to the big centre, but the smaller place had an equal, if not greater interest, because by representation on the Joint Committee, its point of view could be expressed equally, and must be given greater weight than it would be likely to receive did the plan emanate from the centre alone. Also any expansion of the centre must be outside, and, therefore, must be coped with by the outer authorities, and it was much better that that should be dealt with from the start voluntarily, and harmoniously, by a body on which all interests and points of view were represented.

In regional planning the two items that usually and particularly involved co-operation by neighbouring authorities for their consummation were arterial roads and their building lines, and regional reservations for open space, or agriculture. The value of those would accrue to a number of authorities, but not necessarily chiefly to those in whose districts the actual items were proposed. Therefore, some system of sharing seemed clearly called for. The purpose of planning was to guide development, not to embark authorities on expensive work. Without a plan, public or private money spent on development was often wasted, because the objects were unco-ordinated, and might even be mutually destructive. With a plan that embodied a definite policy of development, all money spent, whether public or private, should be fully productive.

Town Planning in Rural Districts.

Mr. W. R. Davidge, F.R.I.B.A., President of the Town Planning Institute, read a paper on "Town Planning in Rural Districts." So-called rural districts (he said) generally contained a number of villages and small towns, in many of which urban conditions prevailed. In many such cases the establishment of separate urban districts was merely a matter of time, and the planning of the larger of our rural districts thus resulted in what was practically a regional planning scheme with a limited and generally arbitrary boundary line, based on that of the administrative area. In the majority of rural districts a large number of separate parishes, each with its own particular needs and characteristics, had to be considered and its individual development provided for, as well as the co-ordination of the respective plans with that of the larger area. Each town or village had its own problems of housing, water supply, and drainage. The separate parishes of the rural districts had, in many cases, little in common with each other, unless they were united in a common industry, such as coal mining or cotton spinning, or in the purely agricultural districts they might be united by common interest in their market town and its shopping centre.

In purely agricultural communities the steady drift of population into the larger towns had the effect of keeping the numbers of the population almost stationary, and in such communities the difficulties of providing new houses, even to replace those decayed or falling out of use, were very considerable. Even where expansion was unlikely, the aim should be steadily to improve conditions until each town was a veritable garden village. The towns or villages that most needed development were those with some form of growing industry, and it was lamentable that so many charming villages had in the last fifty years been so spoilt by the rows and rows of poorly-built cottages which had sprung up alongside the main roads. The proper location of areas, both for housing purposes and for industry, must be one of the primary considerations in the planning of rural districts, and also satisfactory means of communication with the outer world must be provided for.

With regard to the preservation of amenities, in most cases there was already in existence an ancient church, a school, a village green, an old town hall, and a well-established shopping centre, which would form the nucleus of the new development. Fine old trees lined the roadways and the hills all had glorious views. These were all things well worth preserving, and it would ill betide our countryside if the new development robbed it of those precious possessions. The preservation of all that was worth preserving must be part of the plan.

Planning of Urban Areas.

Professor Abercrombie contributed a paper on "The Town Planning of Urban Areas," which, he said, might be taken to include both those portions which were already built and the undeveloped adjacent land which was directly under urban influence. There was a considerable vagueness about what was being aimed at in planning beyond such generalities as amenity, convenience and proper sanitation. In what, for example, consisted the amenity of a town? Was it to make the conditions of urban life approximate as near as possible to those of country life or to refine upon purely urban effects? It was possible to conceive of both types of town as being attractive, but one might prove inconvenient and the other might not conduce to a proper sanitary state, using the latter word in its widest sense. In both forms of growth, loose or concentrated, were they to aim at the continuous spread of existing urban areas, or to split off that increase into new centres, either within the official urban boundary or without it? A very different plan would be required, whichever of the two methods was to be encouraged. There was also the relative position of industrial to residential sections; supposing the satellite form of growth were decided upon, was it better to group the industries in a central mass and make the satellites dormitories only, or did it save useless journeyings to make each satellite self-contained for primary work and residence, though perhaps reyling upon some larger metropolitan for secondary uses such as general markets? The momentum of a town's growth seemed to carry it forward long after the apparent cause of its prosperity had disappeared, but, by providing facilities for a general dispersal of urban energy, it was possible to create a powerful counter-attraction, combined as it was with the natural tendencies towards decentralisation.

Regional Planning and Garden Cities.

Mr. Thomas Adams, in the course of a paper on "Regional Planning and Garden Cities," said the two movements were closely associated, because it was when they considered great industrial areas in large geographical units, without regard to political boundaries, that they discovered the value of the satellite community as a means of relieving congestion in the centre, and as the only means of promoting well-balanced growth. Where they had gone wrong in building cities had been in resisting and not in following nature, and in pursuing false standards of economy in social affairs. While history had nothing to show them that was helpful in dealing with the situation created by the mechanically-propelled vehicle and the immensity of industrial aggregations around the great ports of civilized countries, it did show that some of the results of those new phenomena had never failed to produce deterioration and decay.

Experience in the form usually quoted by the practical man could not guide them in dealing with methods of treatment of a particular problem, but it did show that the result of not applying some kind of system and plan, and of using foresight towards the solution of the city problems, was a menace to what was called modern civilisation as reflected in the great city. Any reform of the evils of the modern city must proceed on a sound economic basis. Reform was not to be found in placing people in dormitory garden suburbs and keeping the factories in the centre, or *vice versa*. The modern city was beginning to suffer as much from the "friction of space" between the home and the place of employment as it had done by crowding its people into homes in the central areas of occupation which had become comparatively congested. Studies of modern regions indicated that there were two main directions in which improvements could be secured. One was by increasing the quality of the residences in the central areas, the second by dispersing industry and population into suburban and rural areas so as to obtain a more evenly-balanced system of development of land and building densities, a more evenly distributed increment of land values, and the elimination of unnecessary travel and divorcement from natural surroundings. A

garden city was not an alternative to the existing city, but a constituent part of the new industrial region which must be developed to fit in with modern forms of transportation and maintain industrial efficiency.

Mr. W. E. Whyte read a paper on "Some Aspects of Town Planning," in which he dealt at length with the various provisions under the Town Planning Act, and referred particularly to their application to Regional Planning.

The position of town planning in Scotland was considered in papers by Mr. A. Horsburg Campbell, of Edinburgh, Mr. G. Baxter, of Dundee, and Mr. P. C. Smith, of Lanarkshire. Addresses were also given by Mr. Gilbert Lang, Chairman of the Third Garden City, Ltd., Mr. James Macaulay, of Glasgow, and Mr. Reginald Bruce, of Manchester.

An exhibition of regional maps and models held in connection with the Conference was very representative of regional planning both in England and abroad. Among the exhibits were a series of maps of the Greater London area, prepared by Mr. G. L. Pepler; Thames Valley region and the West Middlesex region, prepared by Messrs. Adams and Thompson; East Kent, by Messrs. P. Abercrombie and J. Archibald; North-East Surrey and West Kent, prepared by a Technical Sub-Committee under the direction of Mr. G. F. Carter, of Croydon; East Glamorgan region, prepared by the Technical Committee under the direction of Mr. T. P. Frank; Rotherham region, by Mr. W. R. Davidge; Doncaster region, by Professor Abercrombie; Manchester and District region, prepared by Mr. Reginald Bruce; Leeds and Bradford region, by Mr. Robert H. Mattocks; Midland region, prepared by a technical sub-committee under the chairmanship of Mr. H. H. Humphries; North-East Lancashire, by Mr. Reginald Bruce; South Tee-side, by Messrs. Abercrombie and Adshead. Other maps illustrated the work being done in New York City and environs, under the direction of Mr. Thomas Adams; Berlin region, Breslau, Ruhr region, Prague, and Los Angeles. A paper dealing with the exhibits was read by Mr. Macaulay, and a Foreword to the Exhibition Guide was written by Mr. Pepler.

Threat to Kensington Gardens.

The names of Mr. H. S. Goodhart-Rendel and Mr. William Rothenstein are among those of the signatories to a letter addressed to the press in protest against the Kensington Borough Council's scheme for widening Kensington High-street and Kensington-road, which involves the throwing into the roadway of a strip of Kensington Gardens some 850 ft. long and the felling of a number of trees.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Wages, Prices and Prosperity.

SIR,—Referring to your leading article of July 2, may I suggest that one factor in the case has been overlooked? I refer to finance—not in its obvious aspect, three pounds a week being sixty shillings to spend, but to credit and the control of it. The nation is in a muddle because it does not understand credit, what it is, where it comes from, and to whom it belongs.

The people of the U.S.A.—so often, and sometimes wrongly, held up to us as an example—do apparently understand a little more about it than do we. At present this country is financing the U.S.A. system of instalment buying to a very large extent by the unorthodox method of paying for goods received with gold. This gold, becoming multiplied ten or twelve times in credit to their producers, enables them to sell for home consumption at under cost price. The only flaw in the system is that those credits are marked up against consumers as debts, which they are not; they are only figures. It is not possible to say how long prosperity in the U.S.A. will last—it is at the mercy of the banks—but the table given in the *New York Times* of April 30 shows that Great Britain alone will eventually pay 11,106 million dollars, or nearly three times the amount of our original debt of 4,074 million dollars. It appears, therefore, that for the next sixty-two years they will have a good run for our money.

Were we to follow the orthodox method of paying our debt to U.S.A. for goods received by goods, and were we to finance the production of those goods with credits on the gold which we should keep in this country—credits which should be regarded as national property, and as figures only and not "debt"—the industrial position here would be very different from what it is.

In industry there are three parties: producers (masters and men), consumers, and credit finance. The first two are the nation; credit belongs to them equally, for not only is the one useless without the other, but the two are one and the same thing. Credit is not a thing apart; it is, and must, belong to producer and consumer, and the power of creating it and of destroying it must belong to them and not to a third party, as has been the case since the latter part of the seventeenth century.

Under the present financial dispensation, and owing to the repayment and consequent destruction of bank "loans," there is never at any one time enough purchasing power distributed, as wages, salaries, and dividends, to pay the price (which always includes the destroyed loans) of the goods produced. Only free and costless National Credits to balance the destroyed "loans" can bridge the gap, and save us from the stupidity of an "unsaleable surplus."

ARTHUR WELFORD.

Southwold.

"The Need of a New Society."

SIR,—I see by your editorial that you consider the creation of a fresh architectural society to be superfluous. My views may perhaps be of interest to you.

I think the dissolution of the old Society of Architects was a disaster. This society understood the humanities. It offered a helping hand to poverty-stricken youngsters in a manner wholly admirable. Government of nations by despotic oligarchy has always been a failure. This is what has happened in the architectural profession, and the result, while not yet quite obvious, is deplorable. The schools will be brought under one control, and all originality killed.

Many of our great architects have climbed to fame through the Royal Academy. They were fortunate; the harsh curriculum of the Institute examinations would have blighted their genius in the bud. I maintain that the typical A.R.I.B.A. has a keenly developed mathematical sense at the expense of an æsthetic sense.

I think the present policy will assure some entrants admission to the ranks purely on grounds of parentage; others will be deliberately crushed down to the status of underpaid assistants for the whole of their lives. To assert that scholarships will remove this difficulty, I deny. They would be abused within a few months, like Eton and Winchester.

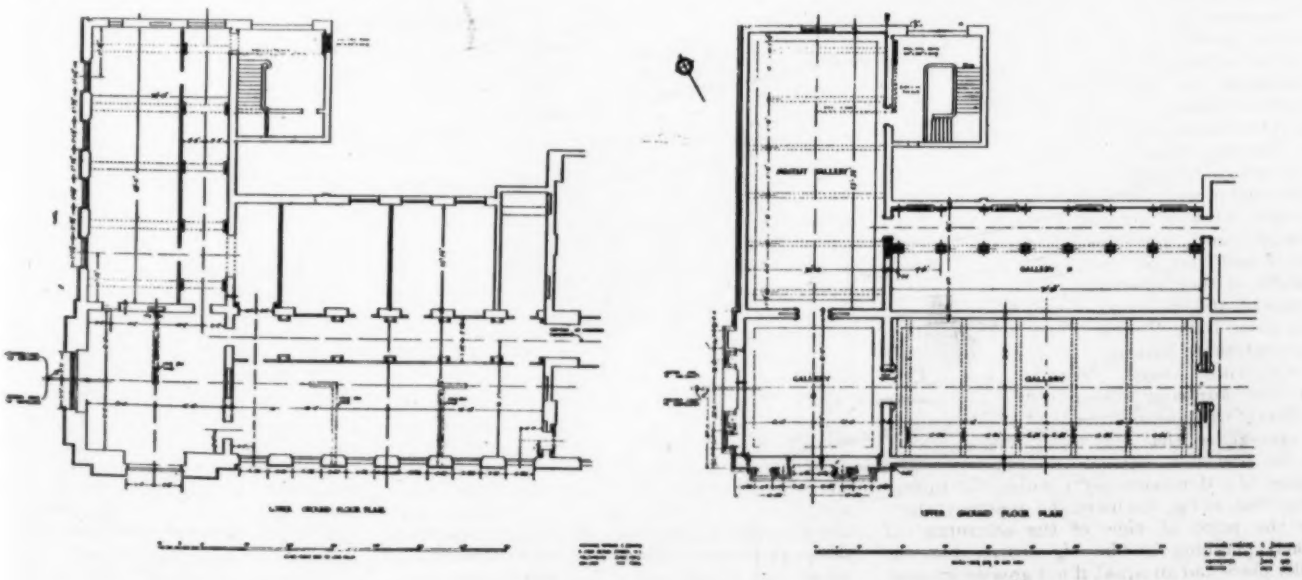
Architecture, in spite of the increasing technical complications, must remain free lance; muzzled, it will become a corpse.

Architects assert with contumely that the public "needs educating." The public does not; its appreciation of architecture was never finer. If it condemns architects, let them set their house in order. I had better conclude, though I should like to say a great deal about students' prizes. No one would welcome a complete refutation of these charges more than myself.

W. H. HOLDING.

Thirteen Hundredth Anniversary of York Minster.

The thirteen hundredth anniversary of the founding of York Minster will occur next year, and preparations are being made to celebrate this notable event.



New Duveen Wing, National Gallery of British Art, Millbank, S.W.: Plans.

MESSRS. ROMAINE-WALKER & JENKINS, Architects.

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ILLUSTRATIONS.

Constantine Technical College, Middlesbrough.

Working drawings are now in preparation for this College, which is estimated to cost about £74,000. The accommodation includes eight top-lit workshops; Metallurgy, Fuel and Gas, Art and Engineering departments; Examination Hall, Library, and Administrative Offices. The external walls are brick faced with stone on three fronts, with granite plinth. Metal windows and fire-resisting floors are being used throughout. Internal walls are largely slab partitions with stanchions carrying the floors above.

Extensions to the University Arms Hotel, Cambridge.

The view and plan given illustrate the extensive additions now being made to this hotel, which will make it a most commodious building, especially for a university town. The new dining hall will seat 300 persons at dinner. The suites of apartments over this are planned on American principles. Running water will be supplied to all bedrooms throughout the building. A lift gives access to all floors. An entirely new entrance will be approached by a covered courtyard leading to an octagonal lounge, from which both dining halls can be reached. The new large dining hall will also be approached by an entrance from Park-terrace. Private dining rooms are provided in the lower floor. The dining room will be entirely panelled in oak up to 9 ft. high, with plaster above and plaster ceiling. A winter garden is to be formed at the end of the new dining hall. The covered courtyard will be used for parking luncheon motor cars. An entirely new garage is provided next to Park-terrace. The windows of the new building will everywhere command extensive and pleasant views. Messrs. Kidman & Sons, of Cambridge, are the general contractors. The main structure is now being covered in and finished off internally. Following are the sub-contractors:—Messrs. Dawnay & Sons, structural ironwork; Mr. Crotch, of Norwich, ornamental plasterwork; Mr. Savell, of Cambridge, stained glass; Messrs. Haden & Sons, of Trowbridge and London, hot water and electric light; Messrs. Waygood-Otis, lift; Messrs. Gibbon, of Wolverhampton, locks; Messrs. Braby & Son, copper roofing; Messrs. Singer, of Frome and London, wrought-iron work.

The architect is Mr. George J. Skipper, F.R.I.B.A., M.T.P.I., of Norwich.

Norfolk Shirehouse Extension, Norwich.

The filled-in moat of the Norman Castle is the site for this building, and the design we publish is by Mr. George J. Skipper, F.R.I.B.A., of Norwich, who writes:— "The long and proud historic associations of the site cast their glamour over everything connected with it and override all other considerations. Hence the architect felt that a low, unpretentious building was the only kind permissible. The Shirehouse itself, holding the Courthouse and Council Chamber, is in a 'long and low' East Anglian type of Tudor architecture—the proposed extension is 'long and low,' too. These motives guided the architect in preparing this design. He felt that the citizens of Norwich were entitled to expect such a building if it could be devised to provide all the required accommodation. This accommodation the plans do provide. The almost windowless upper floor is accounted for by the fact that the offices there are amply lighted from windows on the other or south side, which method of lighting enables the front elevations to be kept low—so low, indeed, that the parapet of the proposed new building is no higher than, nor so high as, that of the old Shirehouse."

"Sandways," Camber, Rye.

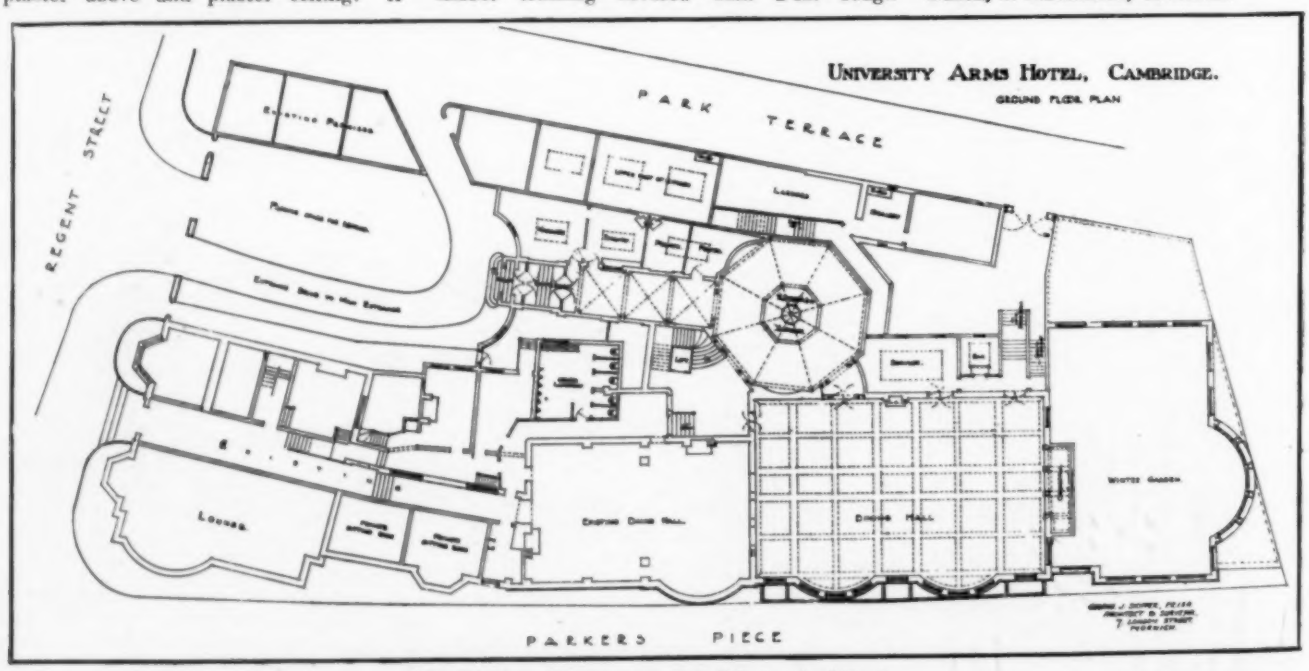
This bungalow has been erected at Camber by the side of the well-known golf links at Rye, Sussex, as a summer residence for Mr. J. W. Alton Batchelor, from the design and under the superintendence of Sir Banister Fletcher, V.-P.R.I.B.A., F.S.I., and contains a large living room, shelter with gazebo and verandah, and four bedrooms, together with the domestic offices. It is constructed of timber framing covered with 1-in. rough boarding, felt and feather-edge weather boarding, and plastered internally. The roof is covered with best green Cornish slates, supplied by Messrs. Roberts, Adlard & Co., and the chimney stacks are of grey stock bricks. The casements, with special ventilating openings, were supplied by Messrs. Crittalls, Ltd., and are fitted in wood frames, and have proved watertight against the prevailing strong and sweeping winds. A special feature of the bungalow is the treatment of the verandah and gazebo, which is balanced by the bay window in the living room. The general contractors were Messrs. Ellis Bros., of Rye.

National Gallery, Millbank, S.W.

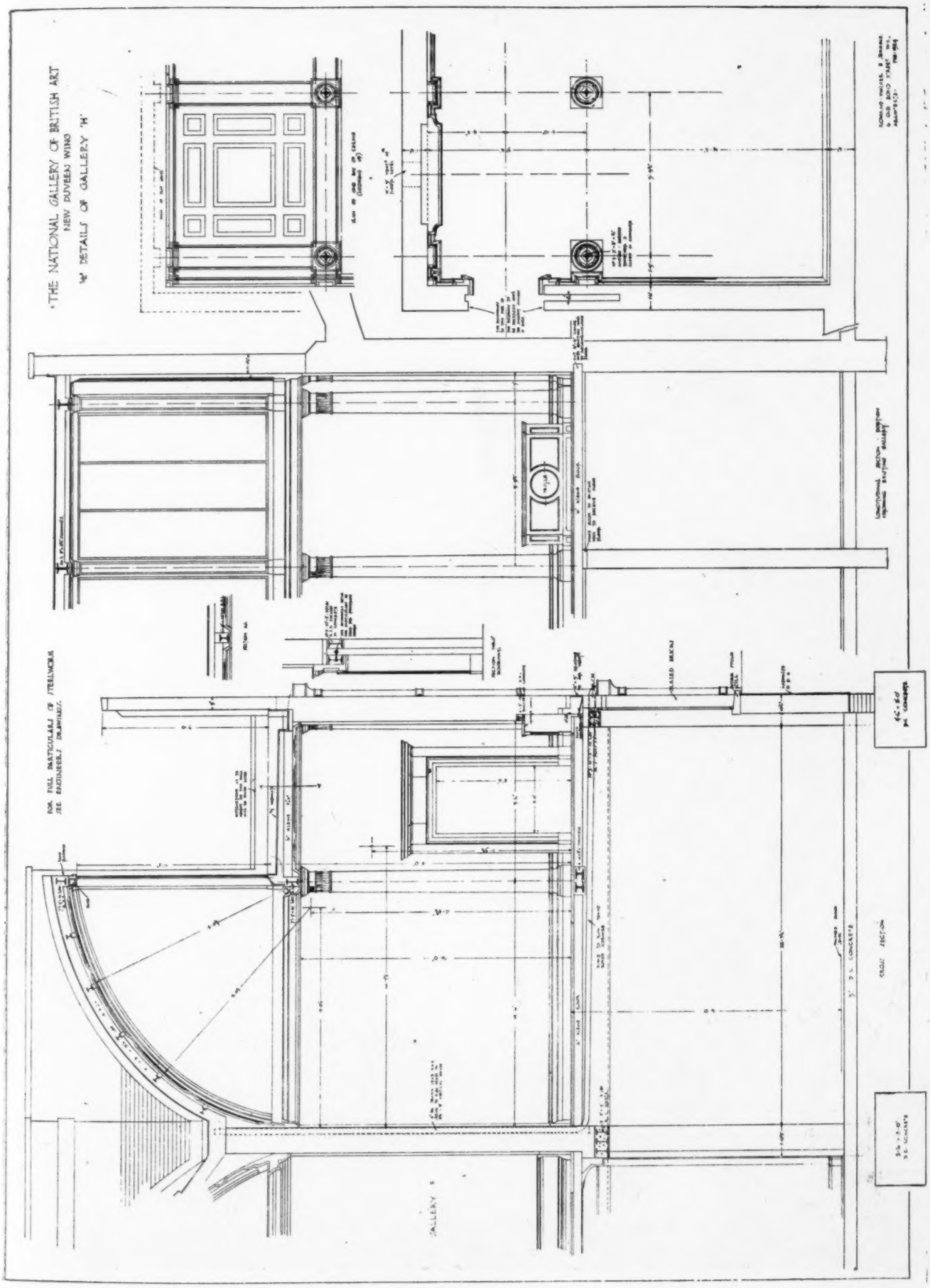
Messrs. Holland & Hannen and Cubitts were the general contractors for this work, and Mr. J. Davies the clerk of works. Mr. F. Rogers executed the external carving. The following were sub-contractors:— Litchfield & Co., decorations of modern French and Sargent Galleries and the stuc decorations of new staircase; Robertsons, Ltd., gallery with experimental lighting; H. T. Jenkins & Son, of Torquay, whole of marble work; Pirie & Co., Ltd., bronze work and ironmongery; Mr. Francis Adam, gilt wrought-iron balustrade to staircase; Mr. P. G. Bentham, decorative lettering and tablets; The Art Pavements and Decorations, Ltd., biancola stairs and landings and the terrazzo corridors on ground floor; Helliwell & Co., Ltd., roof glazing; Pilkington Bros., Ltd., special wired glass; Higgins & Griffiths, electric lighting and power installation; Merryweather & Co., Ltd., fire appliances; Broadhurst Craig & Ching, heating and ventilation; Leonard Copper & Co., constructional steelwork; Kleine Patent Fire-resisting Flooring Syndicate, Ltd., fire-resisting floors and roofs; The French Asphalting Co., asphalt roof and D.P. courses. Messrs. Romaine-Walker & Jenkins were the architects.

New Jeweller's Shop, Leeds.

These premises have recently been completed for Messrs. W. Greenwood & Sons. The elevation to Briggate has been carried out in Marmo terra-cotta by the Leeds Fireclay Co., Ltd. In a town like Leeds, where stone goes black in time, Marmo terra cotta is being increasingly used, and with the introduction of a little colour a decided advance is being made towards the brightening of the streets of the town. The contractors for all trades were Messrs. William Irwin & Co., Ltd. The following were sub-contractors: Messrs. E. Pollard & Co., Ltd., shop front and inside fittings; Williams, Gamon & Co. (Kaleyards), Ltd., leaded lights; the Ratner Safe Co., Ltd., strong room. The architects were Messrs. W. H. Beevers & A. E. Dixon, A A.R.I.B.A., of Leeds.

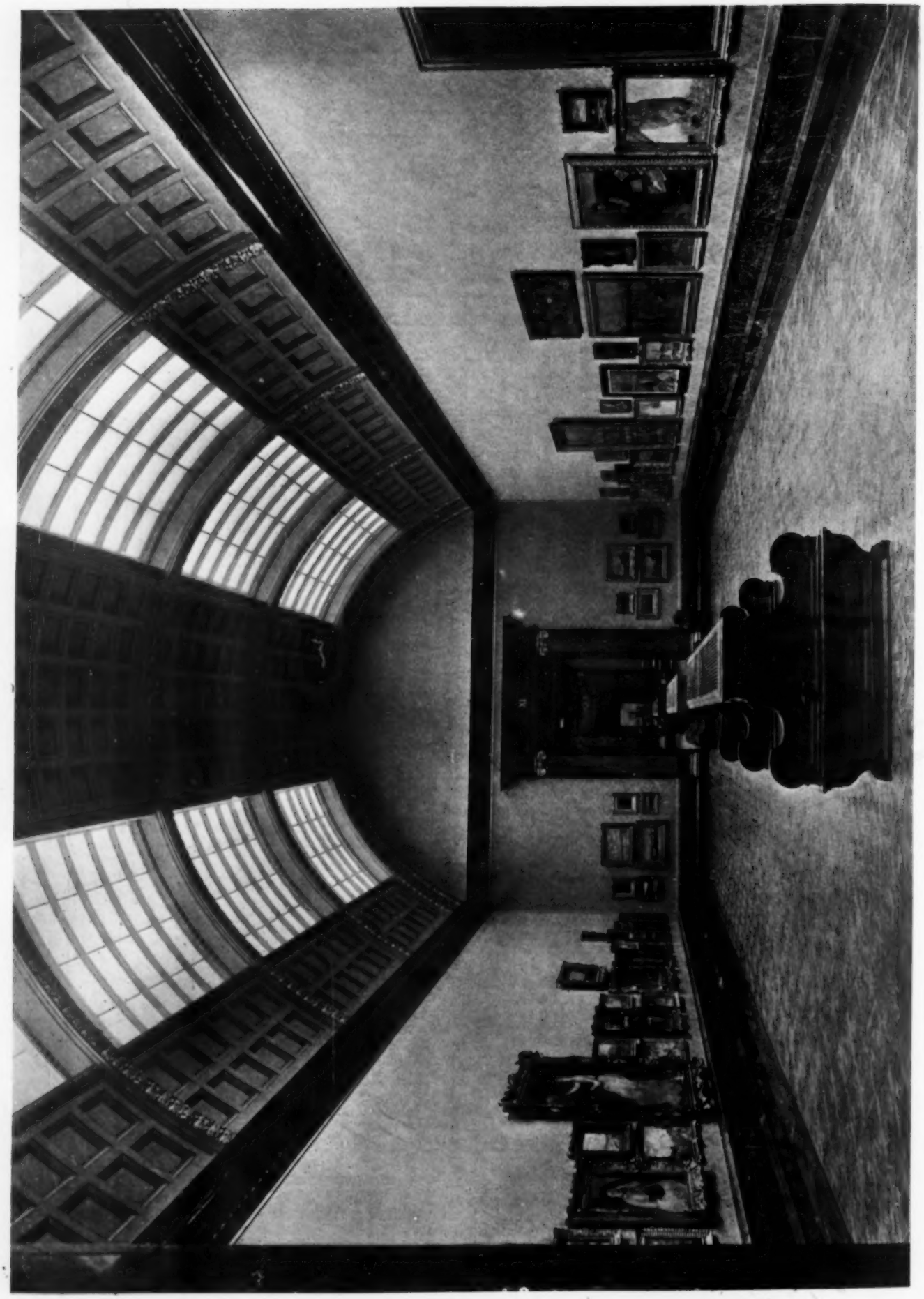


MR. GEORGE J. SKIPPER, F.R.I.B.A., Architect.



New Duveen Wing, National Gallery of British Art, Millbank, S.W.

MESSRS. ROMAINE-WALKER & JENKINS, Architects.



New Duveen Wing, National Gallery of British Art, Millbank, S.W.: Gallery XI (First Modern French Gallery).

MESSRS. ROMAINE-WALKER & JENKINS, Architects.

UNIV. OF MICH.

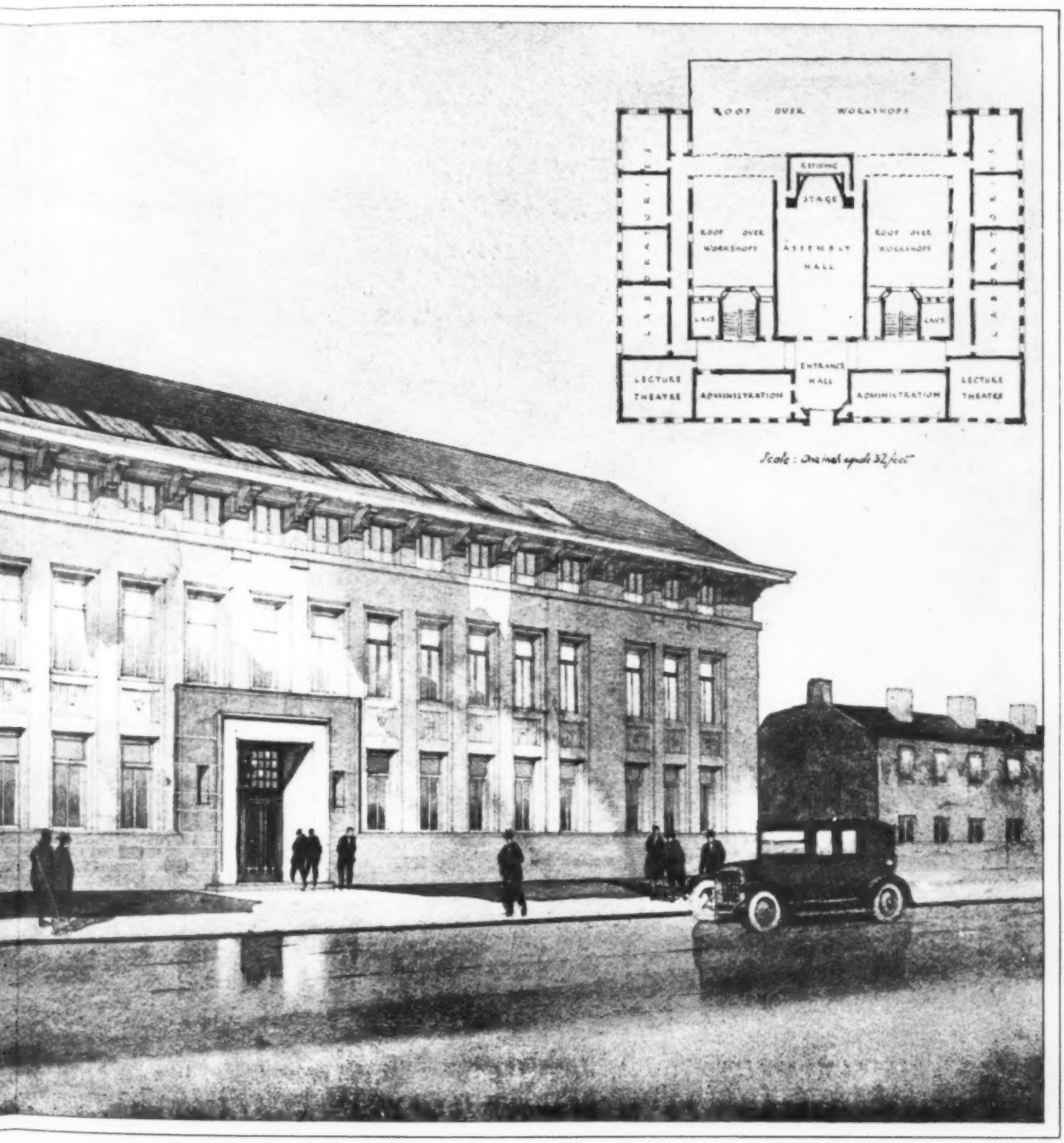
New Duveen Wing, National Gallery of British Art, Millbank, S.W.: South Pavilion.

New Duveen Wing, National Gallery of British Art, Millbank, S.W.: South Pavilion.

UNIV. OF MICH.

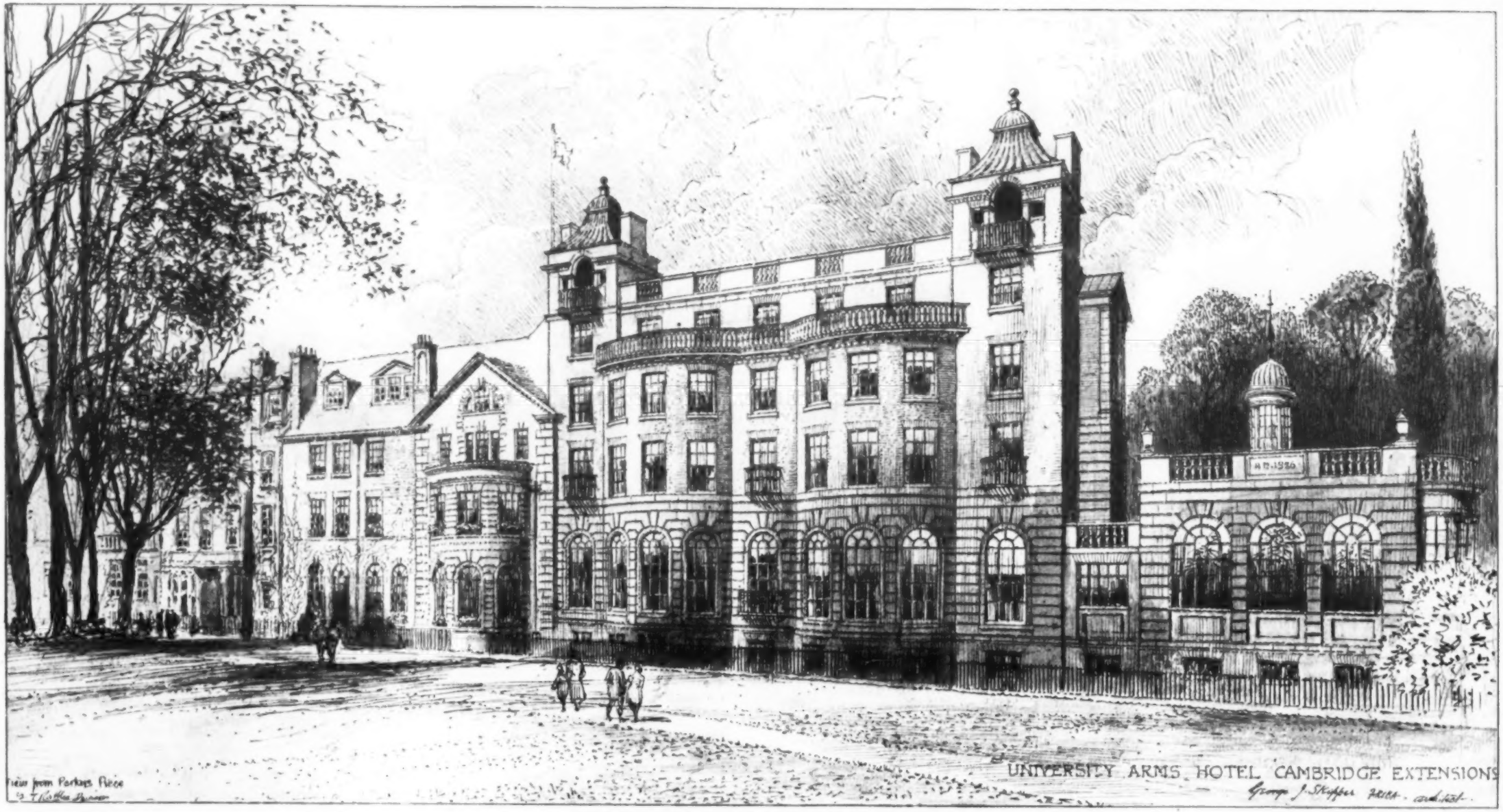
R.A. EXHIBITION.

CONSTANTINE TECHNICAL COLLEGE
FIRST PREMIATED DESIGN



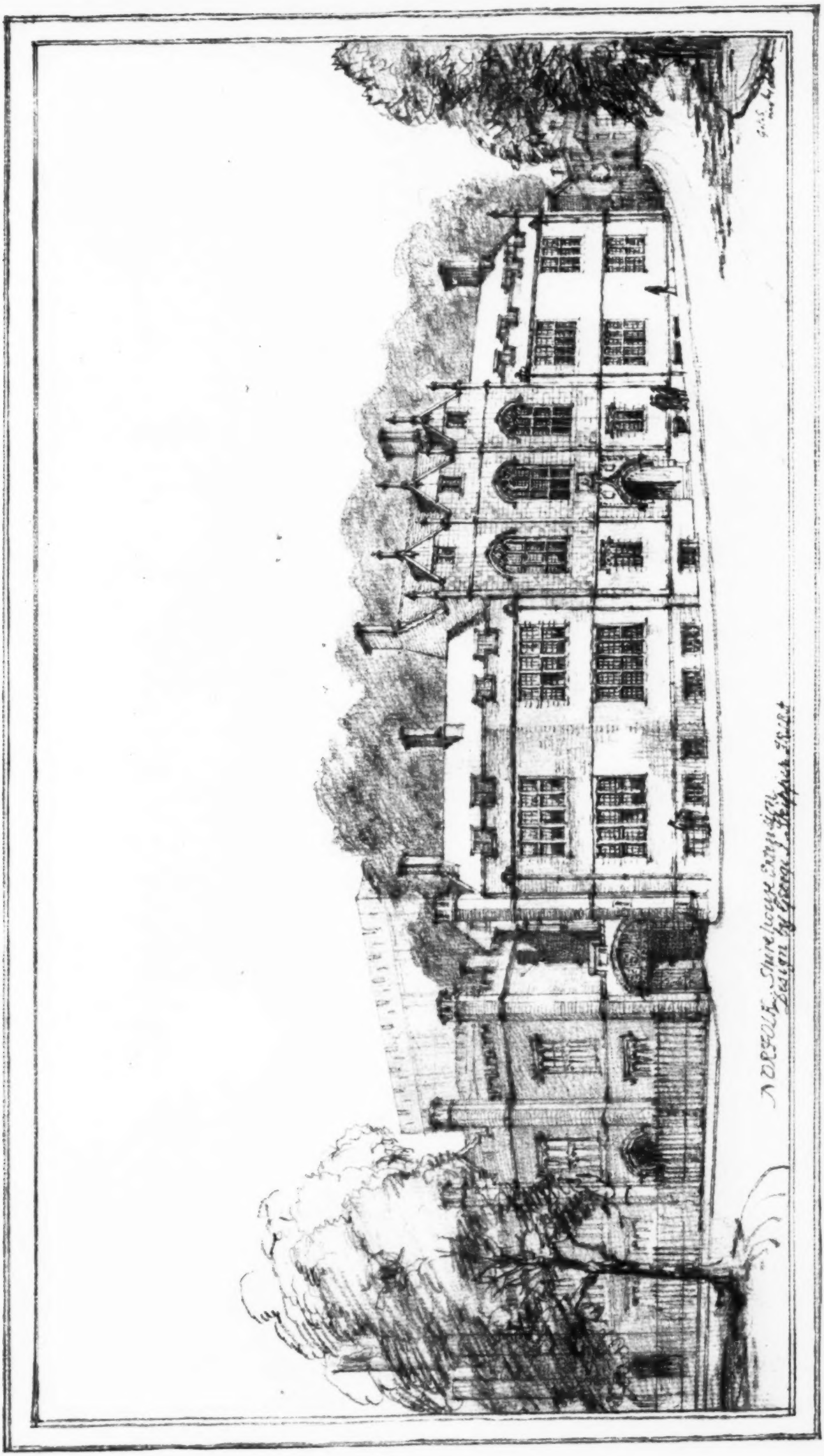
LEGE MIDDLESBROUGH
SIGN

Designed By GRAHAM R. DAWBARN M.A. A.R.I.B.A. Architect
Drawn By CYRIL A. FAREY.



UNIVERSITY ARMS HOTEL, CAMBRIDGE: EXTENSIONS.

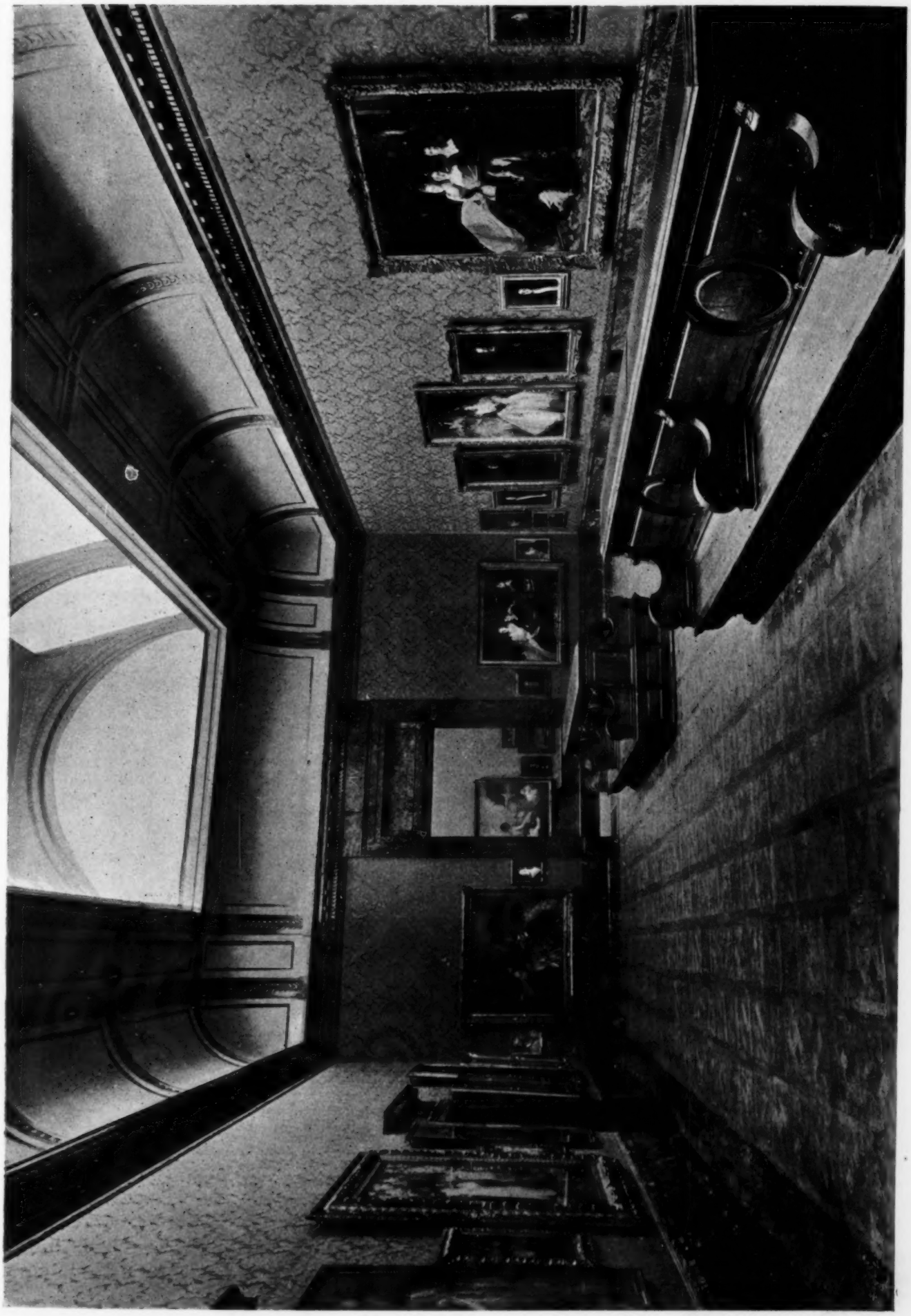
MR. GEORGE J. SKIPPER, F.R.I.B.A., ARCHITECT.



NORFOLK SHIREHOUSE EXTENSION.

DESIGN BY MR. GEORGE J. SKIPPER, F.R.I.B.A.

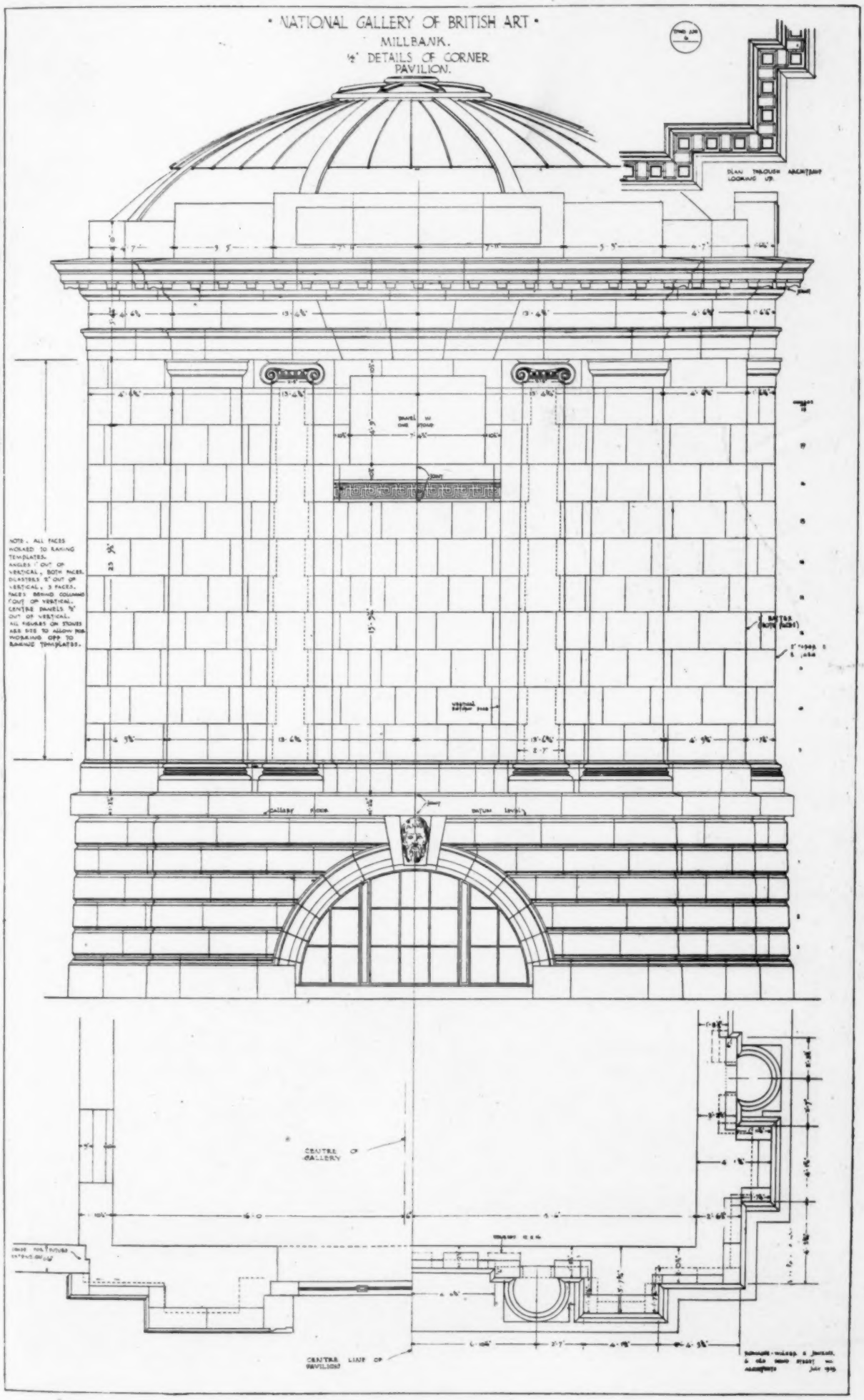
UNIV. OF MICH.



New Duveen Wing, National Gallery of British Art, Millbank, S.W.: The Sargent Gallery.

Messrs. Romaine-Walker & Jenkins, Architects.

UNIV. OF MICH.



New Duveen Wing, National Gallery of British Art, Millbank, S.W.: Details of Corner Pavilion.

MESSRS. ROMAINE-WALKER & JENKINS, Architects.

Jeweller's Shop, Nos. 92 and 93, Briggate, Leeds.

Messrs. W. H. Brevers & A. E. Dixon, AA.R.I.B.A., Architects.

BRITISH TOMBS ANCIENT AND MODERN—VI

By W. R. LETHABY.

OUR ENGLISH CHURCHYARDS.

If I could I would say something in recognition of the loveliness of our country churchyards as a plea for the preservation of their essential character. After the old cottages and churches, these churchyards represent more touchingly and typically the England of our thoughts than any other sights and scenes. Of course, this is more or less agreed as a poetic convention, but it is evident from the alteration of character, which all the time is going on, by bringing in of harsh, glaring tombs of new manufacture and by allowing the old ones to fall neglected, that it is not understood by responsible guardians. This would be an endless subject, but fortunately I cannot deal with it systematically. I think first of all of a few specially remarkable churchyards like that of Bakewell, with its fine Saxon cross, and that at Silchester, with its two beautiful fourteenth-century sculptured tombs decaying unprotected; then I pass to four which happen to be specially well known to me. My mind turns to an old churchyard in Hampshire which stands on a hill-top far away from the modern village. It is approached by a lane up the backbone of a hill, which is evidently a primitive ridge-way (Fig. 1). You climb a bank out of the road and find yourself on a hill from which there is a wide view. The old church—now disused—occupies the crown of this hill, and I always felt there was something significant about the site and ancient in the enclosure—it made me think of King Alfred. On the south side of the church, about a fine old yew tree, the old tombs are crowded, and here there are very few that are modern (Fig. 2).

None of the tombs are especially old or remarkable, but there are many pleasant old things of the kind shown in Fig. 3. One of these, with an elegantly-shaped top, has low relief scroll carving around an hour-glass; it is dated 1735. The other, with a vase and pretty flowers, bears the date 1763. There is a second headstone, very similar in style, as late as 1829—ess than a hundred years ago!

Another churchyard well in my mind is on the north coast of Cornwall, where the graves are practically all of slate, either lying flat or set up as headstones, in which case they are buttressed at the back with masonry to keep them from being blown down. The older ones were laid flat and lettered around the margin. A fragment—now, I hope, removed into the church—which bore the date 166 (?), is most skilfully cut with an inscription, in which traces of black-letter style remain.

Another similar large slate slab covers a low rubble-built body of masonry. This also is inscribed around the margin of the four sides, while the middle space bears within an incised heart-shaped panel "Aged 63," with verses below. The inscription reads: "Here lyeth the body of Thomas the son of John and Tamsin Heminge who was buried the twenty 8 day of April 1702."

One of the tombs here has a verse epitaph which, as it records death by lightning, can hardly have been selected from any collection and must have been specially written:—

"The body that here buried lyes
By lightning fell death's sacrifice.
To him Elijah's fate was given,
He rode on flames of fire to Heaven."

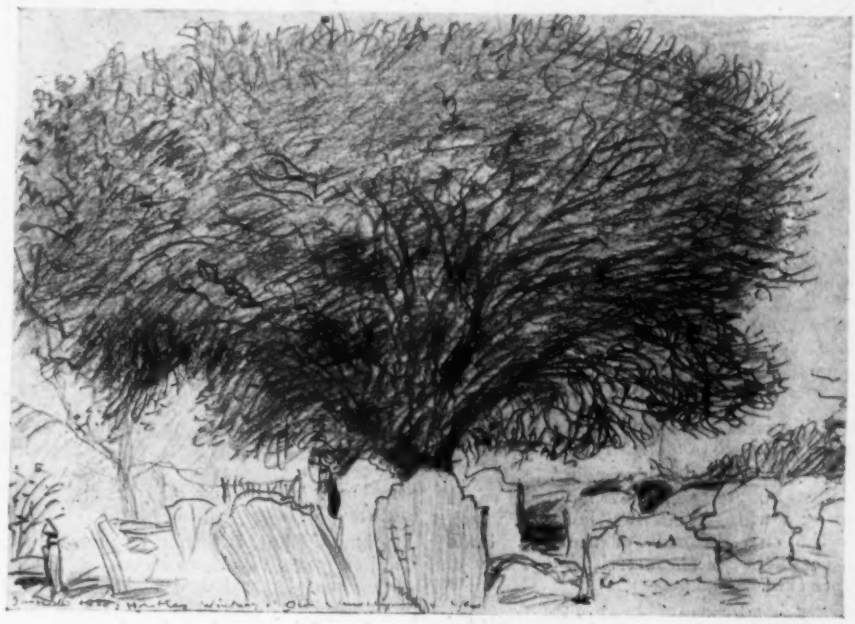


FIG. 2.

FIG. 1

Another verse epitaph which would seem from its simplicity to be home-made is this:—

My friends: my wyfe
And children deare
My glass is runne
And Death is come
My soul before the
Lord it must appeare.

Next I think of the churchyard of the village in Wiltshire in which Wren was born, a place remote and fair under the southern edge of the Downs. Here, as the ground rises on the north side of the church, there is no dark and dismal region in the cemetery, and pleasant old tombs are to be found on both sides of the ancient church; all is sweet and sunshiny. The earliest tomb is a mediæval, wedge-shaped slab with obscure traces of a cross on it—date about 1300, but it may have come from the interior of the church. There are two plain slabs of the same form, which are in good condition, and are probably not earlier than the sixteenth century. There are also several big chest-tombs and some comparatively early headstones. These are small and thick, with rounded tops. The earliest seems only to have had date and name arranged thus:—

1657
THOMAS
LEHMAN

Another, of a similar kind, is inscribed like this:—

HERE
LIES . THE . BO
DY . OF . IOHN
WILLIAMS
WHO . DEPARTED
THIS . LIFE . THE
2 DAY . OF
IVNE . 1699

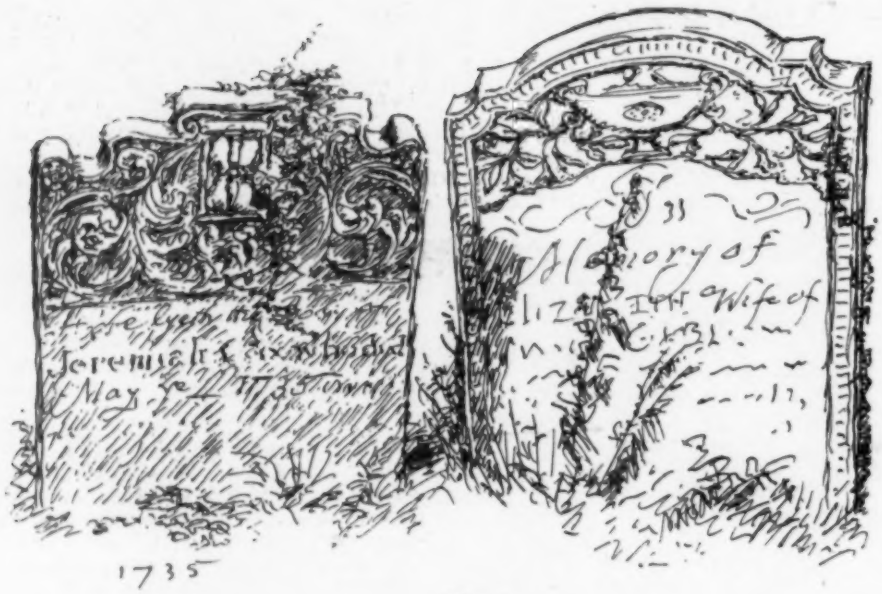


FIG. 3.

The lettering is in big, simple capitals, and it fills out all the space of a slightly sunk panel.

One headstone, a little bigger, is 7 in. thick; some others not quite so thick have the edges reduced by a wide chamfer at the back, which follows the curved forms of the top. Such flattish chamfers are characteristic of many of the stones (Fig. 4).

A bigger headstone of more modern type, dated 1724—200 years ago—is lettered in fine writing characters approximating to "lower-case" in printing, but much more flowing and elegant. The inscription goes *close* up to the edges of the stone, which is thus covered evenly with the patterning of the letters. The all-over character of the old inscriptions should be

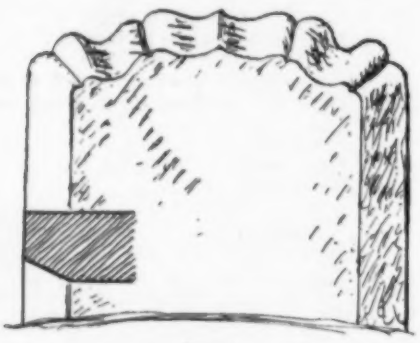


FIG. 4.

remarked. This one begins: "Here lyeth the Body," and ends with a little poem.

Several other headstones are handsome works, with their tops cut into variously curved forms and delicately ornamented in what is little more than engraving; indeed, some of the patterns are only incised, while others have the background very slightly lowered and worked over with a texture. This art of stone engraving should be recognised as a method separate from stone carving. Many of the tombs have verses inscribed on them. A slab dated 1832 has a verse beginning:—

"Here lie the Husband and the Wife
Joined in Death as once in Life

Another stone nearby (1814) has the verse:—

'Kind reader stop behold thy journey's end,
Here sleeps in dust the meek and gentle friend;
A civil neighbour free from noise and strife,
A tender mother and a loving wife."

Such little tomb poems became so common that the monument makers probably kept a selection for choice. "Kind reader stop," &c., is repeated on another tomb in the same churchyard. The most popular of all seems to have been that with the information, "Physicians were in vain." Many of the poems, however, are so personal that it would seem they must have been specially written. The heading "Sacred to the memory" appears to have come into general use early in the nineteenth century.

Some of the tombs in this churchyard, a hundred years or more old, made of soft local stone, are decayed and split, but they are pleasant and speak to our hearts while a stump remains. The simpler churchyard memorials made up to about 1840 continued in the old traditions, and many of them were still excellent. After this date decline was rapid and they soon took on that harsh, blind, blank, commercial stare we know so well, with dull inscriptions set out, as Hudson remarked, like an auctioneer's bill. Then came the avalanche of white marble which swept away all the old local fashions. One tomb so late as 1856 has some lines of the old kind:—

"In sweet repose he's sleeping here,
A husband kind and Father dear."

Some comparatively recent little wooden crosses are possible as being modest, and one grave which has a white wooden railing around a rosemary bush is gentle and in every way sweet. The tombs of the eighteenth century were curiously right, although, of course, they were not high art. In saying this I wonder if it is not one of the pities that the notion of "high art" has ever arisen. I like better Blake's assertion, "All are equal in the Kingdom of Heaven." These old tombs—local, human, and workmanlike—are good enough, and right enough, one kind of perfect

The only other churchyard I will tell of here is a neighbour of the last, and for this I will transcribe a note made the day after my visit. Last evening, July 1—a really "old-fashioned" summer evening—I walked across the fields to West Knoyle, a very isolated West Wiltshire church on the skirt of the chalk hills, to see what had been the local tradition of tombs in that little trodden part of the world. The way was over grass spread with thyme, clover and bed-straw. In the view from the high ground the church appeared among tall trees, which towered over its tower, and showed dark against the dazzling west except for the sunlight, giving them illuminated margins all around, and reminding me of a flock of sheep I had seen a day or two before against the sun, each one with such a halo.

This graveyard, remote from all houses except the Vicarage and a farm, is little invaded by monuments of modern manufacture, but as I remembered it contains many pleasant old things grey with age and orange with lichen—very peaceful and touching.

The earliest tombs here are two wedge, or rather key-stone shaped flat slabs of the mediæval coffin form. These are uninscribed,

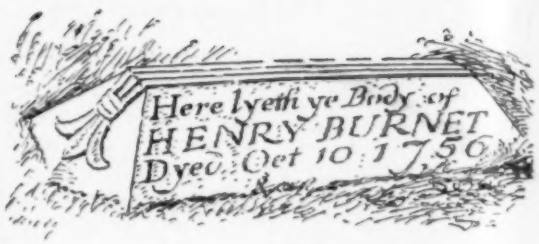


FIG. 5.

but they lie directly under two little panels set in the west wall of the porch lettered like this—

IOHN IERET
DECESED
THE 28 OF
IANUARY
A.D. 1618

HERE LYETH Y
BODY OF IOHN
IERET Y SON
OF IOHN IERET
DECEASED OCT
TOBER 24 1636

Several other tombs, about a dozen, more or less of the same shape in plan, are lumps of stone rather than slabs, shaped above like the roof of a house. Their wider ends are not cut straight across but are slightly A shaped and the ends are not vertical but somewhat hipped. The inscriptions were along the south sides in big frank-lettering: HERE LYETH, &c., I noted the date 1735 on one of them: another is shown in Fig. 5. These coped tombs are also a continuation of a mediæval tradition.

The most important monuments are table tombs or chests with panelled stone sides and flat covers. There were about half a dozen of these of which the earliest had thick covering stones with edge mouldings still Gothic in tradition. One of them had this interesting inscription:—

HERE LYETH INTER'D THE BODY OF HENERY WHITE GENT: MESSENGER TO 3 MOST EMINENT KINGS OF ENGLAND VIZ: K: JAMES, K: CHARLES THE FIRST AND TO OUR PRESENT SOVEREIGN K: CHARLES THE 2D: WHO DYED THE LAST DAY OF JULY, ANNO ÆTATIS 79 ANNOQVE DOM: 1674

None of the headstones here are of early type, but several are big and well ornamented with carving of the very lowest relief, say $\frac{1}{16}$ of an inch, engraving would be the more explanatory word. One handsome wide stone set up for John Rumsey, 1775, and his wife Elizabeth, 1754, bears the verse:—

"Kind Angels guard our sleeping dust
Till Christ shall come to call the just;
Then may we wake with sweet surprise,
And in our Saviour's Image rise."

Another of 1806 to a girl of 15 has a verse beginning:—

"Like as a bud nipt from a tree,
So God hath cut me off you see."

"Membership of the R.I.B.A."

We have received a copy of a pamphlet entitled "Membership of the R.I.B.A.," which contains particulars of the Examinations of the Institute. Copies may be obtained at 9, Conduit-street, price 1s. 2d., inclusive of postage.

Cardiff Technical College.

Dr. Raymond Unwin, Chief Technical Adviser on Building and Town Planning to the Ministry of Health, visited the Department of Architecture and Civic Design at the Cardiff Technical College on the morning of Wednesday, June 30. After inspecting the work of the students he gave an interesting and stimulating address, mainly dealing with the importance of studying the relationship of buildings to each other and to their natural surroundings. Dr. Unwin also drew attention to the necessity for the designing of small buildings and their lay-outs being in the hands of the architect, who by his training is best qualified for the task. A hearty vote of thanks was accorded to Dr. Unwin on the proposal of Mr. W. S. Purchon, the Head of the Department of Architecture and Civic Design.

SPECIFICATIONS.—XXV

By H. V. MILNES EMERSON, A.R.I.B.A.

COPPERSMITH.

SHEET copper is rolled in sheets 3 ft. 6 in. and 4 ft. long by 2 ft. wide, and for roof work in lengths of 5 ft. 3 in. to 8 ft. by 2 ft. 8 in. to 3 ft. wide.

			per ft. super.
Copper of	B.W.G.	18	weight 36 oz.
,,	,,	20	,, 26 oz.
,,	,,	22	,, 20 oz.
,,	,,	24	,, 16 oz.
,,	,,	26	,, 12 oz.
,,	,,	28	,, 8 oz.
,,	,,	30	,, 6 oz.

Note.—Copper roofing is laid in a similar manner to zinc roofing, except that the jointing of sheets is made with welts. The pitch should not be less than 3½ deg.; where the flat has a small fall a drip should be put to each length, otherwise welted horizontal joints are quite satisfactory. Copper will not creep down a steep pitch as will sheet lead. Wood rolls can be dispensed with providing the roof has a fall of not less than 1 in 7, all the vertical and horizontal joints being welted.

Sheet copper covering to domes and turrets is usually of the same substance as that used for flats. The horizontal joints are welted and the angles covered with a special half-round capping 1 in., 1 3-16 in., and 1⅜ in. wide.

Copper stamped tiles of various designs can also be used for domes or turrets, and the tiles can diminish in size from the base to the apex. The tiles should be fixed by screws, which are covered by the succeeding courses.

Copper exposed to the elements will, after a time, get covered with a film of carbonate or verdigris. This green effect can be obtained by spraying with spirits of salts; but naturally the life of the copper will be shortened. This green effect soon disappears when exposed to the air of manufacturing towns.

All copper roofing should be laid on boarding ¾ in. to 1 in. in thickness with an even face. The boards should be laid diagonally so that any unevenness in same will not interrupt the flow of the water. Felt, when used, should be copper nailed.

The wood rolls measure about 1¾ in. by 1¾ in. at the base and 1½ in. at the top, and are usually spaced 2 ft. 6 in. centres. Copper clips are placed at intervals under same, and the edges of the sheets are turned up on either side, the upper edge and the clip turned outwards. A copper cap is placed over the roll and turned under the edges of the roofing sheet. The projecting edge is then turned down making a welted joint.

Copper roofing should not be soldered; only single or double welt joints should be used. Single welts are used when the joints are in the direction of the fall and double welts for the transverse joints.

Flashings should be turned 4 in. against walls and curbs and held up by clips nailed or screwed into the wall, the top edge turned over and clipping the end of the sheets, or the sheets turned up 4 in. against walls and curbs, with flashings over finished with a welted edge and wedged and pointed up where against brickwork in cement.

Item.

349. ROOFS, FLATS AND GUTTERS.—Cover the . . . roof and gutters with sheet copper 24 B.W.G., laid to falls of not less than ¼ in. in one foot, with all seams, flashings, aprons, roll caps, ties, clips and nails. The roll caps to be welted on both sides to 1¾ in. by 1¾ in. twice splayed deal rolls spaced at 2 ft. 6 in. centres. The stopped ends to be welted all round and saddle ends welted to sheets above. Horizontal joints to be double welted and drips to be welted and 2 in. deep. Turn sheets up against walls and kerbs 4 in. and held up by clips nailed or screwed into wall, the top edge turned over to clip the ends of sheets or to have flashings over finished with welted edge and wedged and pointed in cement where against brickwork.

350 LIGHTNING CONDUCTOR.—Fix to the highest chimney or . . . ¾ in. by ⅛ in. solid copper tape in one continuous length, fixed with copper eyes 3 ft. apart and carried round or through cornices, &c., and properly insulated. The upper end of tape to finish with a solid rod or prong . . . ft. above chimney, or . . . and coupled to the tape. Carry the lower end of tape 4 ft. or more below ground and carry same . . . ft. away from wall or to the position shown on drawing, and connect to a 2 ft. by 2 ft. or 3 ft. by 3 ft. by 1-16 in. copper plate buried in a bed of coke breeze (not less than 60 cubic feet).

Notes.—Copper tape is made in the following sizes:—

		Approx.
⅝ in. by 1/12 in.	—weight per ft. run,	3.2 oz.
¾ in. by ⅛ in.	,, ,,	5.8 ,,
1 in. by ⅛ in.	,, ,,	7.7 ,,
1¼ in. by ⅛ in.	,, ,,	9.7 ,,
1½ in. by ⅛ in.	,, ,,	12.7 ,,
2 in. by ⅛ in.	,, ,,	15.5 ,,
2½ in. by ⅛ in.	,, ,,	19.3 ,,

Copper tapes in general use are the ¾ in., 1 in., and 1½ in. When the tape is not in one continuous length the joints should be scarfed, riveted, and soldered together. Sharp bends in the tape should be avoided. In addition to copper tape, copper wire rope is often used. It is claimed to be more durable and will fit neatly into the corners of the building.

The electrical carrying capacity of the lightning conductor should be varied according to the height of the building. For a lofty chimney, or spire, the copper wire rope should be not less than ⅝ in. diameter, and copper tape not less than 1½ in. by ⅛ in. For smaller buildings ½ in. diameter copper wire rope or 1 in. by ⅛ in. copper tape is usually sufficient.

The air-discharging points should have an elevation of several feet, and the terminal rod, with or without multiple points, should be of solid copper from ⅜ in. to ¾ in. diameter and secured to the tape by means of a screwed coupling. The conductor is attached to a copper earthplate 2 ft. or 3 ft. square by 1/16 in. thick, buried 6 ft. deep in the ground at a distance of about 20 ft. from the building. The plate should be placed in a damp position or terminated in a well, reservoir, nearest stream, water main, &c. The tape or rope should be protected from damage by an iron pipe for about 4 to 6 ft. below ground and 8 to 10 ft. above ground.

The lightning conductor is secured to a building, chimney, or spire with holdfasts, staples, or wall clips. High buildings of large area require a number of air-discharging points and earth terminals. A number of air points can be connected together with copper wire, ropes or tape, fixed horizontally and earthed at various points about 30 ft. apart. Alloy in the copper should not exceed 10 per cent.

Copper Pipes.

Copper pipes are now being used in many districts in place of lead pipes, for water services. Some few towns, from their regulations, appear to be suspicious of copper and some bar its use, but unless the water has an acid reaction with the copper, which happens sometimes from moorland water, there is no justification for these objections, as, generally, copper is less poisonous than lead.

Waters which act upon other metals usually act slightly upon copper, taking minute quantities into solution. But any water will take up less of copper than it would of lead under similar conditions; and, inferentially, much less than of iron. The following is a specimen test made with a water which is very acid and which is only used after treatment with chalk:—

Water in stationary contact with metal, 24 hours:

	Metal taken up.	
	Lead.	Copper.
Yorkshire moorland water—		
Natural	1.6 ..	.45 to .65 per 100,000
Neutralised	.06 ..	.00

Copper in water services should always be in accordance with the British Engineering Standards Association Specification 61, or of a purity not less than 99.7 per cent. copper. These qualities of copper, each with a greater or lesser oxygen content, were tried, and all gave, with many types of water and with different periods of contact, such equal results that it can be safely said that no real difference exists. The B.E.S.A. specification, or the 99.7 per cent. specification, are both equally to be trusted; but one or the other should be specified. Copper is absolutely safe to use when the water it conveys will not take up in 24 hours more than .14 parts of copper per 100,000. Since copper is not poisonous, as lead is, and does not accumulate in the system, as does lead, more than .14 parts of copper per 100,000 can be taken up and no harm done.

Tests made with water from the principal public supplies gave results below .14, with the exception of the acid water from Lancashire, Wales, and Yorkshire, which gave results varying from .25 to .65; but the same water, after filtering through chalk, gave a result of .01. These tests proved that copper is less dissolved by water than either lead or iron, that waters not acid in reaction may be used with copper with complete safety, and that acid waters, when normally treated for acidity, are equally safe with this metal.

All interior surfaces, pipes, cisterns, boilers, joints, and fittings should be as smooth as possible, as water generally will act less upon copper according as it possesses a smoother surface. More metal is taken up in the first three hours of contact than in the second three hours, and so forth. This is due to a microscopical film which forms upon the copper and slows down the absorption. Thus an older water service would tend to yield less copper to the water than a new one. For this reason it is advisable to let the water run some hours in a new service before using.

Tin lining generally is not required. Common tin coatings, alloyed with lead, are dangerous. A lining of such material, consisting of 50 per cent. tin and 50 per cent. lead, surrenders as dangerous an amount of lead to a plumbo-solvent water as does lead itself. Tinning, if required, should be 99 per cent. purity, and is a reasonable precaution where water has to stand for a long time unchanged in one vessel. Tinning could also be used in pipes conveying acid water, but it is safer to treat an acid water than to tin-line the container.

The smooth bore of copper pipes prevents to a large extent the scale, or deposit, found in iron and lead pipes, and when compression joints are used the pipes can be readily taken apart for cleaning if necessary. Whilst its strength and elasticity makes it more immune from the bursting effects of frost than lead.

Copper pipes can be taken direct from the main, and under similar conditions as other metal pipes, will prove as serviceable underground as above.

Previously heavy copper tubes were used with screwed joints, but the introduction of light tubes and compression joints has made this material a keen competitor with lead. A copper tube, with walls one-third the thickness of the ordinary screwed copper pipe, is still immensely stronger than the standard lead pipe. A ½ in. bore copper tube, with walls of 20 gauge (.036 in.), will withstand a pressure of some 5,000 lbs. to the square inch, whereas a ½ in. lead pipe, 7 lbs. to the yard, having walls .21 in. thick, would not be safe with a quarter of this pressure.

The following table gives the bursting pressures for copper and lead pipes:—

Internal diameter.	Thickness. Gauge.	ins.	Lbs. per sq. in. Copper.	Lead.
½ in.	18 ..	.048	8,000 ..	—
½ in.	— ..	.2	— ..	2,680
¾ in.	18 ..	.048	5,400 ..	—
¾ in.	— ..	.2	— ..	1,790
1 in.	17 ..	.056	4,700 ..	—
1 in.	— ..	.21	— ..	1,410
1½ in.	17 ..	.056	3,200 ..	—
1½ in.	— ..	.3	— ..	1,350

THE ROYAL SANITARY INSTITUTE

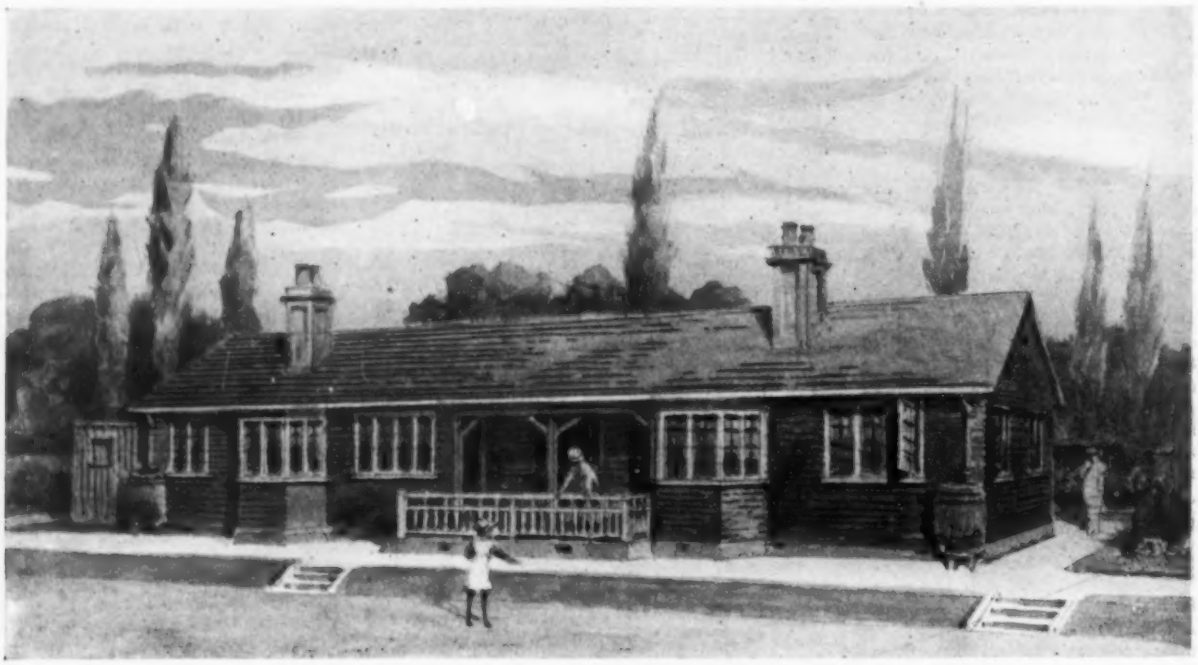
During the Jubilee celebrations and London Congress of the Royal Sanitary Institute, which have been held during the past week, many papers of architectural and building interest were given. We publish extracts from some of these this week, and shall conclude our report of the proceedings in our next issue.

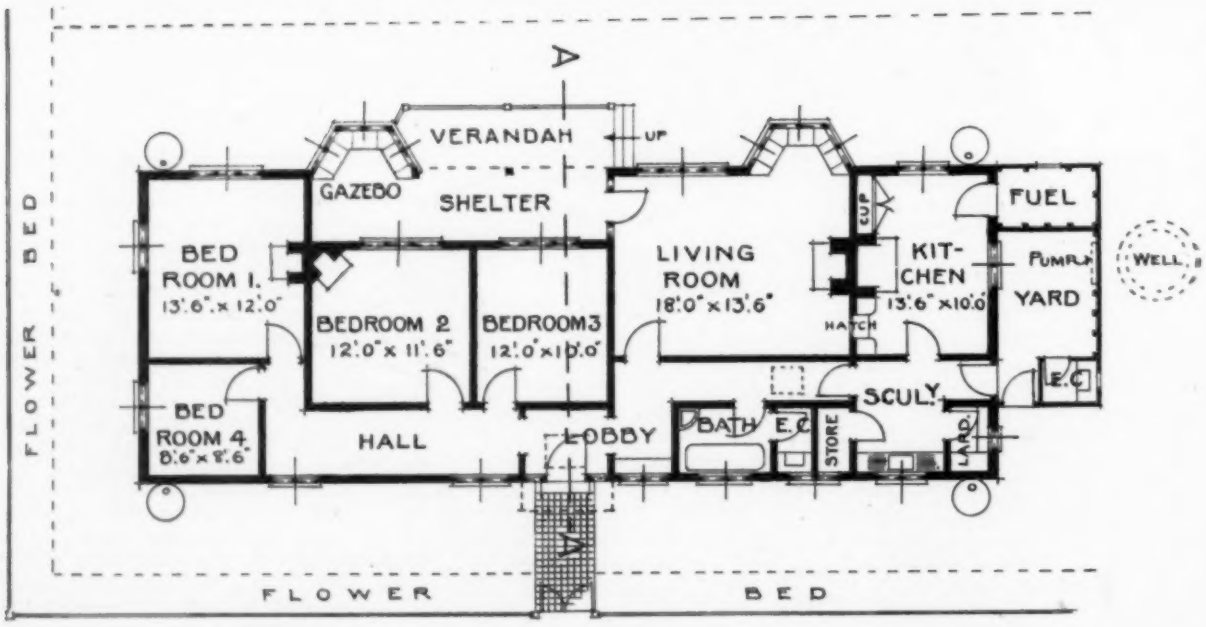
In the course of his Inaugural Address, given at the Guildhall on Monday afternoon, Mr. Neville Chamberlain, Minister of Health, made special reference to the subjects of town planning and housing. We had advanced (he said) to a more comprehensive control of environmental conditions through the powers of town planning which were now in the hands of local authorities. These powers enabled local authorities to secure such control of urban development as would promote not only the economic prosperity and amenity of the district, but also the health of its inhabitants. Incidentally they provided the best means of securing betimes the playing fields for which the increasing amount of leisure among young people and adults had brought a much greater demand; to supply this demand in sufficient measure would itself be a great contribution to the health of the country.

With regard to housing, it was important that it should be adequately realised by the general public what progress had been made. Since 1919 over 670,000 houses had been built, over 413,000 of them with the assistance from the Exchequer. A further 87,000 were in course of erection, and 137,000 more had been authorised, but not yet commenced, with this same assistance. The loans which had been sanctioned by his Department for housing from 1919 to April of this year ran to the great total of over £308,000,000, a figure which might well cause serious reflection. He was glad to say that recently much progress had been made in stimulating the acquisition of houses by occupiers. Since the beginning of 1923 about £27,000,000 had been sanctioned as loans to local authorities for advances to owner-occupiers and others for the purchase or erection of houses.

In dealing with slums, the urban sores handed down to us in large part from generations when proper control of development did not exist, progress had been slower, unavoidably so, because, however much we might deplore the existence of slums and however anxious we might be to get rid of them, we could not, unfortunately, achieve that end until there were other dwellings to which the persons living in the slums could go. The rate of clearing slums must depend upon the measure in which new houses were provided. Even in this sphere, however, progress was being made. So far 97 schemes in all for the clearance of slum areas had been submitted, and 88 of these schemes had already been confirmed. Rural housing presented special difficulties, which were present long before the war and had not yet by any means been overcome. Some progress had been made in meeting the problem, but not enough; and he had some further measures in contemplation.

He had recited these brief facts of what had already been done, not because he wished in any way to minimise the more that was still to be achieved, but because it was highly important that the whole problem should be





· PLAN ·

Bungalow at Camber, Rye, Sussex. Sir Banister Fletcher, V.-P.R.I.B.A., Architect.

seen in proper perspective. If means were unlimited, if the pool of available skilled labour were abundant, the way would be clear. But the means were far from unlimited. We had to conserve our energies and to direct them to the best purpose. We had to continue resolutely in the long campaign for improving the housing condition of the country and for providing proper dwelling places for the people. He was now considering a number of questions concerning the general problem, including the amount of subsidy which should be given for house building after October next, and the questions were ones which gave rise to anxious thought and, from the point of view of the general needs of the country and the well-being of the community at large, could be settled only after very mature deliberation.

Open-Air Schools.

Reading a paper on this subject on Tuesday, Dr. M. D. Horst, M.D., Medical Officer of Health, Leiden, Holland, said the demand for open-air schools was rapidly growing. But a place fit for building an open-air school was not always to be found in the neighbourhood of a town. Also, a great many children, though not manifestly infected by tuberculosis, would greatly profit by open-air school treatment, as, for instance, the asthmatic, the anæmic, the children with rickets, with chronic bronchities, and the undergrown children of the poorer classes. The municipality of Amsterdam had opened for these children a "gezondheidsschool" (sanitary school). To an ordinary elementary school, wooden shelters with three walls and a roof had been added, opening at the south side to a park. The school was run on almost the same lines as the open-air school, the children getting their principal meals at the school and taking a rest of two hours in the afternoon. Children that were tuberculous-infected, but not manifestly ill, were admitted with the others. The question whether open-air schools or so-called sanitary schools were to be preferred had raised some discussion lately. He thought that any medium-sized town (about 60,000 inhabitants) needed both. Education as a rule should be given in the open air, and school buildings should serve only as shelters during rainy, foggy, or very rough weather.

Modern Developments in Housing.

In a paper on this subject, read on Tuesday at the Conference of Representatives of Sanitary Authorities, Mr. F. Montague, M.P., said construction of the house was very closely related to town planning. For instance, if the main roads of an estate ran north-south, and intersecting roads east-west, most of the residences could be planned so that rooms used most during the day were on the brightest side of the house. The set-back of a house determined the degree of privacy and quiet obtainable, and so, if this was well arranged, there was no reason why the convention of having cooking and living rooms at the rear should be followed. Town-planning principles and reasonably cheap land would give opportunity of substituting, where required, broad-fronted houses for the deep-narrow type, altering the shape of the gardens correspondingly. Labour-saving and dirt-saving appliances ought, as far as possible, to be made part of the original appointments of a modern house. The ordinary open kitchen dresser, for instance, was primitive. It would cost little for this to be a well-made and properly fitted structure, with sliding glass doors and cupboards. The scullery of a working-class house was often a calamity. To begin with, the sink was in the wrong place as a rule, considering the sequence of events in the preparation of vegetables and dish-washing. Lady Emmott spoke of the unnecessary number of steps a woman was obliged to take in the course of her day's work owing to the bad planning of the house. The aim now was, she said, to arrange centres of activity, such as sink, stove, and larder, so that a short walking circuit was secured when doing household work. Usually the sink was near the back door (continued the speaker) in the coldest place in winter. It was shallow and without a plug. If water for cleaning dishes or rinsing was required a separate receptacle had to be provided. In the smallest and cheapest house it ought to be possible to fix a deep-plugged sink with draining boards on each side and adequate drying racks above. Hot water for scullery and bathroom, plenty of it (and not dependent upon stoking up a kitchen fire, whether the month was August or January), was a *sine qua non*. This was a question which might be thought about in connection with what was promised in the way of electrical development. The scullery should be a scullery-kitchen, light, roomy. Between the sink, which should be at right angles to the window, and the cooker there should be a cabinet-cupboard built into the wall, the upper part consisting of shelves for pots and pans, the middle part for canisters, flour bin, condiments, closed by a flap which should let down for working purposes to the right height for a woman to sit at her work. Underneath there should be drawers and shelves. The ordinary brick-built copper was extravagant in fuel and tiring to fill and empty. A gas or electric copper or washing machine on the percolator principle should be placed within easy access of the sink.

Modern Methods of House Construction Compared and Contrasted.

Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., read a paper on this subject on Tuesday, in the course of which, after some introductory remarks, he said that stone-built houses required thick walls and were cool to live in in summer and warm in winter, but stone walling, unfortunately, had a tendency to let the weather through, so that the inside became damp; further, being thick and cold, they were more liable to sweat in changes of temperature, and it was customary to add a lining of absorbent material or else batten and plaster the walls on the inside; but for all that very many houses were built of stone, and what a charm they had, and how the external effect appealed to the eye, as one must admit after visiting the West of England, where so much of this class of work was done. Many a pretty piece of scenery in a stone country had, however, been spoiled by the vandal in the erection of hideous and garish brick-and-slate boxes to be used as houses, which were quite out of keeping and harmony with their surroundings.

Brick houses might be built with hollow walls, so as to prevent damp showing through where no walls thicker than 9 in. were required. Some brick-built houses were faced with common bricks and then plastered all or partly over on the outside. This could only be classed as a mistake, and such should not be done, excepting perhaps some small part for elevational effects, if for no other reason than that there were so few plasterers to be obtained to-day, and to give them the double work of plastering inside and outside of the house was to be deprecated and stopped as much as possible.

The modern concrete building might either be of poured concrete or of concrete slabs or blocks, of which there were very many kinds in existence. Out of the 1,000 or so methods of dealing with concrete as a house-building material, some were better and more adaptable than others, and might be used as an alternative method of construction; but it must be borne in mind that no advantage would be gained by the change unless any such method was not only going to use other materials and be cheaper, but was also going to help in the long run by setting free other trades. But it should not be forgotten that most concrete and slab houses had for self-preservation, if not to hide their hideousness, to be plastered outside as well as inside, and consequently there was not much saving; perhaps there was a little on net cost, but taking into account the poorer building and the less measure of amenity, the cheaper building would be dear at the price. A concrete block to be of any economic use for building should not be too large, and should be able to be lifted by the bricklayer with the left hand without laying down his trowel. So many blocks were much too large for this, and thereby any advantage which might otherwise be obtained was lost. Some modern concrete houses were built with a sort of steel frame and filled between with two thicknesses of 2 in. slabs, and these might be better than concrete blocks, but the same difficulty with regard to the plastering question arose in these.

New Methods of House Construction.

Lecturing on this subject, also on Tuesday, Dr. Raymond Unwin, F.R.I.B.A., Chief Town-Planning Inspector and Chief Architect, Ministry of Health, said that apart from the desirability of finding better or cheaper methods of construction than those ordinarily employed there was at present, and for some time was likely to continue, urgent need for supplementing the total building capacity of the industry by a considerable number of additional houses erected by other methods not involving an extra call on certain of the building crafts, which were already taxed to their full capacity. New methods might or might not ultimately prove better or cheaper than the old; at present their help was needed in either case to supplement what was possible on old lines. The new methods which had been tried were altogether too numerous to be dealt with individually, but some typical groups might be referred to.

(1) One group, while depending mainly on the use of ordinary materials, had aimed at eliminating the delays from bad weather, and making economies in the organisation of the work, by providing an inexpensive steel or other frame to carry the roof, and sometimes, also, the first floor of the dwelling. The usual order of construction was nearly reversed; the roof was first erected and completed; the remainder of the house being then built up under it in comparative freedom from interference by bad weather. The systems falling under this group, when well handled, appeared to show some advantage in organisation and in flexibility as regards the order of construction.

(2) The various forms of concrete construction make up by far the largest group, and that which had contributed the greater number of extra dwellings. This group might be sub-divided into various classes:—

(*a*) There were those in which concrete was poured into a complete mould or without shuttering; and, as regards these, it might be said that success depended largely upon the amount that had to be charged to each house for use and waste of shuttering, the ease and speed with which the shuttering could be erected and removed, and upon the ability to produce either a hollow wall or one in which it was possible to construct an exterior able to resist the weather, and an interior section of the wall offering good resistance to temperature changes, and minimising the risk of condensation.

(*b*) As a modification of the last-named class, a number of systems had aimed at providing, either as the shuttering itself or as a lining to the shuttering, sheets of asbestos or other material which constituted a self-facing for the poured wall, either on the inside or outside or both The problem here was to find facing materials properly adapted to the several conditions for interior and exterior facing, and of such a nature that they would permanently adhere firmly to the concrete.

(*c*) Various arrangements of reinforced concrete piers and framing filled in with concrete or other slabs constituted a further class of which a large number of houses had been erected. They were sometimes described as "the pier-and-panel" form of construction.

(*d*) Allied to this system, and also to No. (1), were the forms of steel-framed houses in which a concrete coating was put on in some cases by means of the cement gun. Breeze or composite blocks, slabs made in various ways from diatomous earths, burnt or mixed with cementitious materials, or sheets of compressed cork, had all been used in connection with this class of construction to secure better surfaces or insulating properties.

(*e*) There was a numerous class of building in which blocks or slabs of concrete or terra cotta of different kinds and compositions were built up more or less in the form of masonry. In some cases the joints were poured instead of being

trowel laid, and many satisfactory houses had been built from these various systems, although some of them made demands on the building crafts, which diminished their immediate value for increasing the total output of houses.

(*f*) One of the most interesting groups depended on securing, instead of a dense concrete such as had usually been sought after, a mixture which should contain as large a proportion of air cavities as possible. The aim was, while securing enough strength for the requirements of cottage building, to obtain a material which in other respects would be reliable in resisting damp, condensation, or the rapid conduction of heat. In some systems the end was attained by eliminating all the fine materials, and using an aggregate of clinker or other suitable hard material, carefully graded to such an even size that when the particles were coated with cement mortar and poured into moulds a pumice-like structure was produced. Others had tried to secure a similar result by using effervescent mixtures; and in Northern countries hailstones had been used in the mixing of the concrete to secure the air cavities. Each of these methods had its own difficulties, but they opened up a promising new line of development in the direction of producing a material adapted to meet the very varying conditions met with in house building.

(3) Those who sought to produce dwellings in a factory by mass production formed another section. The relatively low cost of alternative materials, as well as the relatively high cost of timber, some climatic differences, and some prejudice, had so far prevented any extensive use of timber dwellings.

(4) A number of attempts to produce a new material suitable for factory production must be referred to. The aim was to find a composition lighter than concrete, capable of being cast more easily and safely into moulds, easier to handle and cut, and providing a more satisfactory internal surface. Such a material, it was claimed, while having many of the advantages as to production and erection associated with the steel and cast-iron houses, would offer a solution to some of the problems which they have to contend with.

Other papers read on Tuesday were as follows:—

"The Activated Sludge Process of Sewage Treatment," by Mr. H. T. Calvert, M.B.E., D.Sc., Chemical Inspector, Engineering Department, Ministry of Health.

"Disposal of Sewage Sludge on Farm Land," by Mr. William Clifford, A.M.Inst.C.E., Manager and Chemist, Sewage Outfall Works, Wolverhampton.

"The Delimitation of Drainage Areas," by Mr. F. O. Stanford, O.B.E., M.Inst.C.E.

"Disposal of Town's Refuse," by Mr. J. Sutcliffe, A.M.Inst.C.E., Borough Engineer and Surveyor, Woolwich.

"The Sanitary Inspector—A Retrospect," by Mr. William G. Cooper, F.I.S.E., Chief Sanitary Inspector, Bournemouth.

"The Public Health Acts—A Plea for Consolidation," by Mr. T. Topping, Chief Sanitary Inspector, Rochester.

"The Betterment of Existing Housing Conditions," by Mr. Robert Keeley, County Sanitary Inspector, Lancashire County Council.

"A National Voluntary Effort to Meet the Needs of Homeless Families," by Mr. Thomas Speake, Senior Sanitary Inspector, Shrewsbury.

Among papers read on Wednesday were the following:—

"The Human Side of Industrial Welfare," by the Right Hon. J. R. Clynes, M.P.

"The Economic Value of Welfare Work," by Mr. Angus Watson.

"Factory Medical Service: Its Future," by Professor E. L. Collis, M.D., M.R.C.S., Mansel Talbot Professor of Preventive Medicine, University College of South Wales.

New County School, Neath.

A new County Intermediate School for boys is to be erected at Neath, at a cost of £40,000, from the designs of Mr. James W. Nash, F.R.I.B.A., County Architect. The builders are Messrs. Evan Thomas & Sons, of Neath.

GREATER LONDON HOUSING CAMPAIGN

By J. P. ORR

III.—LOCAL AUTHORITIES' PROGRESS UP TO 31st MARCH, 1926.

In an article published in *The Builder* of 22nd January statistical information was given as to the progress made by the 126 local authorities of Greater London in their post-war housing campaign—

(*a*) Up to 31st March, 1925, and
(*b*) In the six months ending 30th September, 1925.

The purpose of the present article is to present the corresponding statistics for the six months ending 31st March, 1926.

The local authorities of England and Wales had, by the end of March, 1926, completed between them since the war 233,674 subsidised dwellings, including 35,980 (15.4 per cent.), in Greater London. Of these dwellings 14,218, including 4,973 (11.25 per cent.) in London, were completed in the twelve months from 1st April, 1925, and 24,670, including 2,580 (10.5 per cent.) in London, were completed in the six months ending 31st March, 1926.

Both in Greater London and in England and Wales as a whole the output of new houses in the half-year to 30th September, 1925, had been nearly equal to that of the previous twelve months. This rate of progress was considerably improved on in the second half of 1925-26; but whereas outside Greater London the second half-year's output was 29 per cent. above that of the first half (22,090 against 17,155), the corresponding increase in London was only 8 per cent. (2,580 against 2,393).

London's share of the country's output has steadily fallen from 17 per cent. as at the end of 1923-24 to 13 per cent. in 1924-25, 12 per cent. in the first half of 1925-26, and 10.5 per cent. in the second half. The combined output of the 126 London authorities in 1925-26 (4,973 dwellings) was 134 short of the output of the L.C.C. alone for their best year, 1922-23.

The L.C.C.'s output in the second half of 1925-26 exceeded that of the first half by 32 per cent. (1,319 against 995), but the increased activity of the L.C.C. was counterbalanced by diminishing activity among the other 125 London local authorities, who completed between them only 1,261 dwellings in the second half as against 1,398 in the first half of 1925-26. These 1,261 were erected by 42 local authorities (eight of the 30 authorities within and 34 of the 96 authorities without London County). The other 83 authorities completed none, though 18 of them (including only Fulham within London County) had 584 houses a-building on 1st April, 1926.

The L.C.C.'s rate of delivery, though still far below their 1922-23 record of 98 dwellings per week, has steadily increased from an average of 28 per week in 1924-5 to 38 per week in the first half and 51 per week in the second half of 1925-6. The corresponding figures for the other 125 London authorities were 23, 54, and 48.

The trouble about the L.C.C.'s output still is, as it has been since 1922-23, that the new dwellings other than those specially reserved for tenants transferred from slum areas are for the most part too far from the centre of London to benefit many of the families suffering from bad housing in the northern and western metropolitan boroughs—e.g., Kensington, Paddington, St. Pancras, Islington and Holborn—where there is so much serious overcrowding in tenemented houses. Out of 1090 houses let in Becontree and 460 let in Downham during the last six months of 1925-26, only 137 and 22 respectively were let to families from these boroughs. These figures of relief have to be compared with the figure of need connoted by the census record of a population of over 40,000 living more than three per room in these boroughs in 1921.

In three years from 1st April, 1923, only 258 dwellings were completed by the L.C.C. outside Becontree, Downham, and certain estates reserved for tenants transferred from clearance scheme areas—namely, 189 in Roehampton, five in Bellingham, and 64 in White Hart Lane Estate.

The 2,580 dwellings completed in Greater London in the six months to 31st March, 1926, consisted of 101 under the 1919 Addison scheme, 1,340 under the 1923 Chamberlain scheme and 1,139 under the 1924 Wheatley scheme. The corresponding figures for the six months to 30th September, 1925, were 107, 1,494 and 792. There is no great difference between these schemes as regards types of houses, but as they differ materially in the matter of finance they may properly be examined separately.

The Addison Scheme.

The 101 Addison dwellings erected were:—
21 by the L.C.C. in Roehampton,
32 by St. Marylebone, and
48 by Twickenham.

These groups are too small to reduce the local house shortage materially. The Roehampton houses form part of a section of 375 houses yet to be completed; but the rents of 15s. for three-roomers, 16s. 6d. for four-roomers, and 18s. for five-roomers are so high as to put the houses beyond the reach of the working-class families most in need of relief from bad housing, except the comparatively few whose earnings come to over £4 per week. Any reduction of rents would add to the already too heavy burden which this scheme puts on the public purse. The writer has no information as to the loss entailed by these last 101 dwellings; but the L.C.C. estimates for 1926-27 show that on the average for the whole of the 8,743 Addison dwellings completed by them up to 31st March, 1926, the economic rent per dwelling is 30s. per week, of which 13s. 6d. is paid by the tenant and no less than 16s. 6d. by the public purse!

The Chamberlain Scheme.

Of the 1,340 Chamberlain dwellings, 554 were erected by the L.C.C. and 786 by 25 of the other 125 local authorities. Of the L.C.C. dwellings 446 are in Becontree and 108 in East Hill, Wandsworth. These 108 are reserved for transferees from houses to be closed in slum areas in sanctioned clearance schemes, so they are merely substitute dwellings, and do not go to reduce the general shortage.

The 446 Becontree dwellings are let at weekly rents varying from 12s. 8d. to 14s. for three-roomers, from 14s. to 16s. for four-roomers, and from 16s. 8d. to 17s. 4d. for five-roomers. These rents are on the low side for post-war dwellings; but the houses are situated some five miles east of London County, and are only let to tenants from London County and not to Essex people; so most of the tenants have to lose several hours and incur considerable expense in travelling to and from their work. Even those who work no further west than the City have to spend over 6s. per week on train fares, and this, added to the rent, puts these houses beyond the reach of the great bulk of working-class families who are seeking to escape from bad housing conditions in London. The average loss per family housed by the L.C.C. under the 1923 Act is, however, already over 6s. per week; so reduction of the average rent cannot be recommended.

Of the 786 Chamberlain dwellings outside the L.C.C.'s contribution, the only contributions in London County were:—

Kensington	18
Hackney	24
Lambeth	60
Wandsworth	68

Of the 21 contributors outside the county only three contributed 50 or more, namely:—

Enfield	50
Dartford	62
Epsom	90

The other 18 contributed 414 only.

The rents of the new Chamberlain dwellings vary considerably from borough to borough, but the general level is still high. Rents could often be reduced by over 2s. per week if the local authorities by whom they are fixed would adopt the policy originally contemplated by Mr. Chamberlain of adding to the State subsidy of £6 per annum for 20 years an equal subsidy from the rates; but most local authorities seem to be satisfied that the few houses they can erect under this scheme are all required by sufferers from bad housing who can afford to pay high rents and do not need the 2s. reduction. Naturally, therefore, they allot the houses to these better-to-do people, and the others have to wait; for the dwellings vacated by the better-to-do have become decontrolled, and, as landlords are free to charge what rents they like, these decontrolled dwellings are often even further beyond the reach of the poor than the local authorities' houses.

The Wheatley Scheme.

Let us turn now to the Wheatley scheme, which was specially devised to produce houses *at low rents*, and see how far it has contributed in the six months to 31st March, 1926, towards the relief of the poorer tenants who have got no relief from bad housing through the Addison and Chamberlain schemes. The chief contributors to the output of 1,139 dwellings were the L.C.C., whose output in six months was 744 dwellings against 241 in the previous six months. The output of the other local authorities was only 395 against 551 in the previous six months; and only 15 of the 125 local authorities contributed to this.

Of the 744 L.C.C. dwellings 384 were in Becontree, 322 in Downham, Lewisham, close to the south-east boundary of London County, and 68 in the White Hart Lane Estate in Tottenham, just beyond the northern boundary of the County. These 38 were reserved for transferees from houses to be closed and demolished in clearance scheme areas, and only the eastern and southern boroughs could benefit to any great extent by the progress in Becontree and Downham respectively.

The tragedy about these Wheatley dwellings is that the L.C.C.'s efforts to bring the cost of production down by reducing the area of rooms and economising in amenities with a view to offering the dwellings at comparatively low rents did not in fact lead to the desired result. Mr. Wheatley contemplated rents (inclusive of rates) averaging for the whole of England 9s. per week and leaving 5s. 3d. per week to be paid from the public purse in the shape of an annual subsidy of £13 10s. per dwelling for 40 years; but in order to limit the public burden to this 5s. 3d. per week the L.C.C. have had to fix rents as follows:—

Becontree.—Three roomers, 13s. 4d. to 14s. 8d.; four roomers, 14s. to 16s. 8d.; five roomers, 16s. 8d. to 18s.

Downham.—Three roomers, 14s. to 14s. 6d.; four roomers, 15s. 6d. to 18s.; five roomers, 18s. 6d. to 19s. 6d.

Thus the Wheatley rents are actually higher than the Chamberlain rents.

Outside the L.C.C. estates the only contributions in London County were:—

Islington	32
Poplar	36
Woolwich	78

Of the 12 contributors outside the County only three contributed 50 or more dwellings, namely:—

Edmonton	56
Dartford	50
Croydon	50

The other nine contributed 93 between them. These small contributions can have little effect on local shortage, and none on the general shortage outside the borough in question, since each borough caters for its own people only.

As regards the rents, the 15 contributors found themselves in the same quandary as the L.C.C. Most of them, like the L.C.C., adhered to the principle that the burden on the public purse must be limited to 5s. 3d. per week (£13 10s. per annum), and the result has been rents higher than can be afforded by the bulk of those most in need of relief from bad housing.

The Edmonton Council were able to keep their rents down to 14s. 11d. for four roomers and 17s. 9d. for five roomers, without exceeding the limit of £4 10s. in rate subsidy; but to secure the corresponding rent of 12s. 6d. for three roomers and 15s. for four roomers the Poplar Council had to make the rate subsidy 3s. instead of 1s. 9d. per week. The total subsidy per house (State and local) for their Wheatley houses was even then less than that for their Chamberlain houses, viz, 6s. 6d against 8s. 9d. per week. In Woolwich, as in Poplar, local needs were held to call for limitation rather of rents than of rate subsidy; so rents were fixed at 14s. 3d. for four roomers and 16s. 7d. for five roomers, and the consequent extra deficit of about 3s. 8d. per week was put upon the rates. Elsewhere the Wheatley rents were considerably higher than those adopted by the L.C.C., *e.g.*, in Islington 22s. 1d. for four roomers, and in Croydon 14s. 7d. for three, 18s. for four, and 21s. 7d. for five roomers.

The writer is mainly concerned for ill housed families who earn from 50s. to 75s. per week, and need better homes at inclusive rents from 10s. to 15s. per week. These people are depending almost entirely on local authorities for relief from bad housing. Private enterprise has so far done next to nothing for them, being still almost exclusively engaged on the provision of houses for better-to-do families who can afford to buy houses either outright or on the hire-purchase system. The writer is therefore not concerned to analyse in detail the figures of progress in private house building, but the following figures give the position as at 1st April, 1926. They serve to indicate the great and growing demand that private enterprise has been making on the resources of the building trade in its small house branch, and explain why it is so difficult to make progress adequate to the needs of the situation in the provision of small houses at low rents.

PROGRESS IN PRODUCTION OF POST-WAR WORKING-CLASS HOUSES IN GREATER LONDON

Period.	Local Authorities' Houses.		Houses Built by Subsidised Private Enterprise Including Public Utility Societies.		Houses Built by Unassisted Private Enterprise of Rateable Value up to £35.		Total.		L.C.C. Houses Included in Column 2.	
	In the period.	To end of period.	In the period.	To end of period.	In the period.	To end of period.	In the period.	To end of period.	In the period.	To end of period
Column 1.	2*a*	2*b*	3*a*	3*b*	4*a*	4*b*	5*a*	5*b*	6*a*	6*b*
Up to March 31, 1924	..	.. 28,331	—	—	—	.. —	—	.. —	—	.. 8,041
From April 1, 1924, to March 31, 1925	2,676..	31,007	—	.. 3,625	—	.. 23,344	—	.. 57,976	1,472..	9,513
From April 1, 1925, to Sept. 30, 1925	2,393..	33,400	2,305..	5,930	6,923..	30,267	11,621..	69,597	995..	10,508
From October 1, 1925, to March 31, 1926	2,580..	35,980	3,046..	8,976	7,698..	37,965	13,324..	82,921	1,319..	11,827

This review of the situation as at the end of March, 1926, leads the writer to the same conclusion that he arrived at on review of the situation as at the end of September, 1925—namely, that the great bulk of the families needing early relief from bad housing in London, particularly those residing in the north and north-western metropolitan boroughs, are not getting that relief, and are not likely to get it for a long time yet under the London housing campaign, as at present conducted.

SOCIETIES AND INSTITUTIONS

LIVERPOOL UNIVERSITY.

Prizes and Scholarships.

The following awards are announced:—

The Commonwealth Fellowship to America (£600 for two years), F. M. Astbury.

The Duveen Scholarship for Rome Scholars to America (£300), Stephen Welsh.

The R.I.B.A. (Henry Jarvis) Scholarship, Rome (£250 for two years), Herbert Thearle.

The R.I.B.A. Tite Prize (£150), A. C. Cotton.

The Liverpool Architectural Society's Roman Travelling Scholarship (£50), H. Bramhill.

The Holt Travelling Scholarship (£50), H. Bramhill.

The Rankin Prizes for Sketch Designs (£12 each)—fifth year, A. C. Todd; fourth year, J. B. Maxwell.

The White Star Prize for Ship Decoration (£10), R. G. Heal.

The Holland & Hannen and Cubitt Prizes for Working Drawings—first prize (£15), A. G. Todd; second prize (£10), G. A. V. Hall.

The *Architects' Journal* Essay Prize (£5), W. A. Eden.

Following are the Examination Lists, June, 1926:—

Faculty of Arts.

DEGREE OF B.ARCH.

Fifth Examination (Honours in Architectural Design).—Class I, H. G. C. Spencely; Class II, Norah Dunphy.

Fourth Examination.—A. Aspland, G. A. V. Hall, G. A. Ridge, M. Z. el Tawil, Olwen Vaughan

Third Examination.—S. J. Docking, H. G. Ellis, G. C. Hough, M. C. Neumann, H. H. Powell.

Second Examination.—N. Bodhiprasad, P. G. Freeman, H. H. Wilkinson, R. A. Williams, L. Wright.

First Examination.—Hilary Archer, G. Bolsover, A. B. R. Fairclough, D. R. Harper, Nancie B. Haywood, G. Holford, Joyce Marks, A. P. Meldon, J. O. Nelson, G. Stephenson.

Diploma in Architecture.

Fifth Examination (Distinction in Architectural Construction).—Class I, A. C. Todd.

Fifth Examination (Ordinary).—A. D. R. Cowley.

Fourth Examination.—D. Hall, J. H. I. Isherwood, O. G. Lewis, J. G. Metcalfe, C. E. Moore, B. A. Sumner.

Third Examination.—H. Bramhill, A. J. Davidson, P. J. Doran, S. G. Garrett, J. L. Hughes, A. Owen, H. T. Parry, D. B. Solomon.

Second Examination.—A. T. Ashworth, C. S. Brown, A. C. Burrows, J. N. Cowin, E. G. Hearnden, S. W. Kelly, B. St. C. Lightfoot, E. Murray, F. Norman, D. Poulton, G. J. S. Segar-Owen.

First Examination.—R. M. Archibald, E. R. Furbur, J. B. Inglis, G. Kenyon, P. S. P. Morter, E. O'Flynn, H. Owen, H. J. Woods, J. H. Wright.

THE 'BUILDER' CONSTRUCTIONAL PROBLEM COMPETITION

THIS competition is limited to students in architecture and building classes or schools, assistants who have not passed the Final of the R.I.B.A., and others engaged in architecture or building, not over 25 years of age. A prize of £1 will be awarded each week for a satisfactory solution. Drawings to be on paper, tracing paper or linen not exceeding 30 in. by 22 in. (Imperial size), and should be in ink, with bold lines and printing, as the drawings, if reproduced, are much reduced in size. The drawings can be sent in a large envelope or rolled. Competitors must put their name and address on each drawing. Those who wish to have their drawings, &c., returned must enclose a stamped and addressed adhesive label.

Answers, addressed to the Editor, and marked "Problem 25," to be sent in not later than first post, July 19. The Editor's decision to be final.

AWARD FOR PROBLEM No. 22.

The prize of £1 has this week been awarded to Mr. W. E. Fancott, of Leicester, whose drawing shows a nicely arranged ceiling with three deep main panels divided into smaller panels with minor members. The ceiling has been kept away from the concrete floor above, allowing an air space between, which is a sound arrangement. Providing the brackets in detail C are firmly secured they answer the purpose, but a good alternative would be to use a built-up or solid wood beam in place of the brackets.

Mr. Bowman submits a good drawing. He has not provided for an air space over the wood ceiling, but supports or builds his brackets on a 5 in. by 2 in. joist in places similar to that suggested in the above remarks.

Mr. Stanley T. Brown submits a detailed drawing, full of work—in fact, more than what is required in answer to these problems. His general construction is good, but his panels, 28 in all, are too small for good effect. He also misread the position of the steel joist. Others who sent in good working drawings were Messrs. H. Connolly, R. Teague, J. Greenwood, and H. G. Day.

PROBLEM No. 25.

A garage 30 ft. by 20 ft. internally is to be constructed in brickwork with openings on the long side. Roof to be flat. Draw to a scale of 4 ft. to an inch plan showing steelwork in roof and elevation of door openings. Draw to 1½ in. scale a typical cross section of the roof, also part elevation of the doors and section of same with beam over. Show the method of hanging the doors and the base and head of the stancheon with the beam over.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

The Lighting of Shop Windows.

SIR,—The following problem has been put to me by a shopkeeper. I should be glad of some information on the points raised.

In a shop window used for the display of household furniture it is difficult to see articles shown, particularly at the back of the show space—say, 15 ft. from the glass. Articles can only be seen well by standing close up to the window and looking directly at them through one's own reflection. The poor visibility is due to strong reflections in the window from the road surface and opposite buildings. The road is untarred and light in colour, and the buildings opposite are painted light grey. The shop faces north, and the road and buildings opposite are in full sunlight. The street is about 30 ft. wide. Is it possible, in these circumstances, to overcome the reflection so as to render the displayed goods sufficiently visible to catch the eye of passers-by?

FABRIC.

Maintenance.

SIR,—Under the usual form of building contract, is the contractor liable for damages for faulty work discovered after the period of maintenance is terminated? Is there any limit of time after which his liability would cease other than the same period of maintenance?

QUERY.

Boundaries.

[REPLY TO "IN A FIX," JUNE 25.]

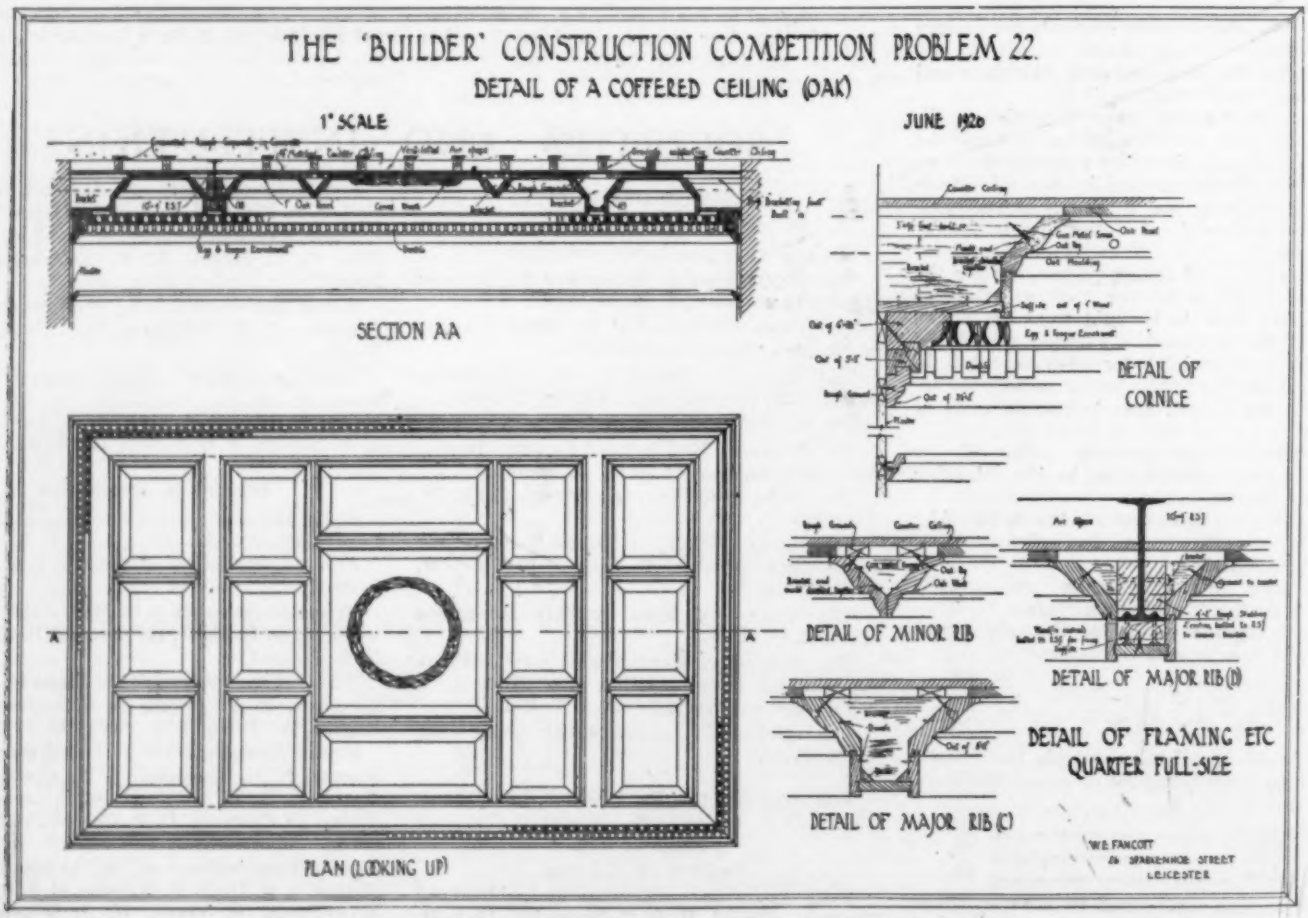
SIR,—"In a Fix" admits that he has encroached on the adjoining owner's property in building his boundary walls; therefore he must either remove the walls or pay compensation to the adjoining owner. What that compensation should be depends not only on the value of the land, but in addition there is damage to be taken into account from the fact that the adjoining owner has not the full use of his land, and that his proposals for the utilisation of the land may be much restricted by the encroachment. It will not be difficult to fix the price of the land, for that is usually taken at per foot of frontage; and in the North of England at per yard super. But unless negotiations for the damage above referred to can be settled satisfactorily to both parties, then they should agree to refer the whole matter to arbitration as the best means of determining the difficulties which have arisen.

Should "In a Fix" eventually possess the land on which is the encroachment it may be well to bear in mind in the negotiations as to the purchase on the lines indicated above, that should he grant to the adjoining owner from whom he has purchased the land a divided moiety of the walls thereon, making part or all of such walls party-walls, he in turn will be entitled to a monetary or other consideration to the extent of the use made thereof as and by way of compensation. Further, in the event of this last happening, the adjoining owner, it should be remembered, will be entitled to have the wall or walls used maintained as between the two properties.

LAW.

Nottingham Marl.

A reply to this question has been posted direct to our correspondent.



Winning Design, Problem 22. By Mr. W. E. FANCOTT.

THE BUILDING TRADE

WORKMEN'S COMPENSATION: PROCEEDING TO WORK

It is surprising what difficulty there has been in laying down any definite rules which shall determine when an accident which causes injury to a workman arises out of and in the course of his employment. We have discussed this question at some length both in our recent articles on Workmen's Compensation, and also in a note to the decision delivered in the House of Lords in the case St. Helens Colliery Co. *v.* Hewitson (1924 A.C. 59; *The Builder*, April 25, 1924). That was a case where the employing colliery company had entered into an agreement with a railway to convey the men to their place of work under special terms, but it was optional on the men whether they used this means of conveyance or not, as there were other means by which they could reach their place of work. A workman was injured by an accident which occurred on the railway, and the House of Lords held that as it was optional whether the man should use this means of conveyance the accident did not arise "in the course of his employment."

This case was followed by Newton *v.* Guest, Keen & Nettlefolds, Ltd. (*Weekly Notes*, May 29, 1926). The workman in that case lived about 3½ miles from the place where he worked, but the employing company had provided a platform at Penydarren, bordering on the Great Western Railway line, and a workmen's train was provided which carried men from there to the pits. The coaches belonged to the respondents, but the engine and van to the railway company. The line during the first portion of the journey belonged to the railway company, but ultimately the train passed along a line belonging to the respondents. No charge was made to the men who used the train, but in the St. Helens' case a charge was made. The workman while going to his work and crossing the Great Western line to reach the Penydarren platform was run over by a light engine and seriously injured. The County Court judge had held that the men were expected to use this train in order that they might be at the pits in time, and it was the duty of the men to use the train as this was the only reasonable and practicable way in which they could give effect to their contracts, and therefore the accident arose out of and in the course of the employment, and he made an award in the applicant's favour. The Court of Appeal, however, held the case was covered in principle by St. Helens Colliery *v.* Hewitson, and set aside the award, and on a further appeal to the House of Lords the judgment of the Court of Appeal was affirmed. In the events which we shall show in a moment have happened it is regrettable that the Law Reports have marked this case with an asterisk showing that it will not be reported in full in the Law Reports, but so far as can be gathered from the short note in the *Weekly Notes*, as in the St. Helens' case, there must have been other means of access open to the workmen rendering it not obligatory on the men to use the train, for the Lord Chancellor said, of course the owners expected the men to use the train which they had provided because it was much easier to go by train than to go by any other way, but he did not think there was any evidence upon which it could be found that it was part of the man's contract that he should use the train or that it was his duty to use the means of access so provided. Therefore, applying the test laid down in the St. Helens' case, as laid down by Lord Atkinson, as to whether an accident occurs "in the course of the employment," "whether the workman was doing something in discharge of a duty to his employer directly or indirectly imposed upon him by his contract of service," the House held the claim failed.

Between the hearing of this case in the Court of Appeal and the hearing in the House of Lords, another case, Howells *v.* Powell Duffryn Coal Co., Ltd. (1926, 1 K.B. 472), came before the Court of Appeal, in which the St. Helens' case and that we have just considered were discussed.

The facts of this case were as follows:—The Powell Duffryn Company had at the colliery a hauling engine which hauls trucks up a considerable incline from the sidings of the Great Western Railway Co. over a track owned by the colliery company, the respondents. For the men living in or about Aberdare who had a distance to walk the respondents provided an old railway coach which took them up this incline some 1,035 ft. long to the pit shaft, being hauled up by the hauling engine. This engine was under the control of a person employed by the respondents, the coach was their property, and the track was on their land, but there were other means of access by which the men could reach the same spot the engine hauled them to. The applicant had come up late for the first journey, and on the second journey the coach was crowded, and he travelled on the foot-board and sustained serious injury from the rope by which the coach was hauled up the incline. The County Court judge, though desiring to find for the applicant, felt constrained by the decision in Newton *v.* Guest, Keen & Netttlefolds, to find for the respondents. At the time the appeal was heard by the Court of Appeal the decision in Newton's case was still pending in the House of Lords.

The Court of Appeal held this case distinguishable from the St. Helens' case and Newton's case, and this point is clearly stated in the judgment of Lord Justice Atkin. In those cases the workmen were journeying to the place where they were employed, but in this case the man had reached the premises where he was employed, and then, by a permitted means of access used in a permitted way, was going to the particular spot where he had to work.

The Court, in coming to their decision, followed the cases Cross, Tetley & Co. *v.* Catterall (a case decided in 1905 by the House of Lords, but now reported for the first time in the *Law Reports*, 1926, 1 K.B. 488) and John Stewart & Son, 1912, Ltd. *v.* Longhurst (1917, A.C. 249; *The Builder*, April 6, 1917), and those cases must be consulted to avoid falling into the wrong impression that, for the employment to begin, the man must have reached premises under the control of the employer. In Longhurst's case the man was employed by ship repairers on a barge in a dock, which dock belonged to the Port of London Authority. In returning from work on the barge he sustained an accident in the docks, but it was held that, inasmuch as the man was only in the docks solely by virtue of his contract of service, the accident arose out of and in the course of his employment. In that case it was expressly stated by the Lord Chancellor that actual ownership or control by the employer of the spot where the accident occurs is not essential. In Catterall's case the man was approaching his place of work by a footbridge over the canal, one end of which was on the employer's land and the other end upon the towing path; but the bridge had been erected by the employers to enable men who lived on the north side of the canal to approach the pits by that means of access, and the House of Lords held that, when coming on that bridge, the man entered the employment—that is to say, he was doing something on his employer's behalf.

It will be seen that the distinction between the two classes of cases represented respectively by St. Helens Colliery Co. *v.* Hewitson and Stewart & Son *v.* Longhurst is a very fine one, but the distinction appears to be that, in the first class of cases, the employer only gives the men the option of using a means of transit to arrive at the employer's premises; whereas, in the second class, there is a permission either to use the only means of access (Longhurst's case) or a means of access provided and controlled by the employer (Tetley's case).

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

Waterloo Bridge.

In the House of Lords, on the second reading of the London County Council (Money) Bill, the Earl of Crawford said that the Bill contained provisions for dealing with Waterloo Bridge. Since the Bill was read a second time in the House of Commons, the general position had changed. The Government had announced its intention of holding an enquiry into the general question of London bridges, which would clearly affect Waterloo Bridge among others. He asked that the County Council might pay heed to the report of the Commission, and that, unless any vital or urgent structural necessity should arise, the bridge should not be destroyed until the Commission had had an opportunity of making a report on the subject.

Viscount Falmouth, speaking for the London County Council, in reply, quoted the resolution of the Council, which was that on the understanding "(1) that the proposed Royal Commission on Thames Bridges will issue their Report within a reasonable period, and (2) that the Council retains full liberty in the event of an emergency to deal with the bridge as it thinks fit, action for the rebuilding of Waterloo Bridge be deferred, but that, in order to provide for an emergency such as is indicated in (2) the holding of the competition agreed to on April 27-28, 1926, be proceeded with." He hoped that Lord Crawford would offer no opposition to the Bill, for if it was decided that the bridge must be reconstructed, or if the bridge should show dangerous signs of failure, it was most essential that the County Council should be able to proceed at once. If no powers were obtained in this year's Bill, no action could be taken until next year's Bill was passed, and thus twelve months might be lost when no time could be spared. The County Council were willing to let the bridge stand as it was for the time being, while holding their competition, and nothing could possibly be done until towards the end of the year.

The Bill was read a second time.

Slum Areas.

Mr. Day asked the Minister of Health whether it was proposed to introduce a Bill giving local authorities national assistance for the clearance of slum areas; and, if so, at what date?

Mr. Chamberlain said that provision had already been made by the Housing, &c., Act, 1923, for Exchequer assistance to local authorities for the clearance of slum areas, including the provision of re-housing accommodation. This assistance took the form of a contribution up to one-half of the approved loss arising out of the execution of the scheme.

Houses with No Flue Outlets.

Lieutenant-Commander Kenworthy asked the Minister of Health if his attention had been called to the action of certain local authorities in sanctioning the erection of houses with no chimneys or adequate flue outlets from the bedrooms; if he was aware that this would only effect a saving of from £2 to £5 per house; and whether he would issue instructions for the fitting of these necessary aids to efficient ventilation in the interests of the health of the public?

Mr. Chamberlain said he could not agree that efficient ventilation must necessarily be provided by chimneys or flues, if other adequate

means of ventilation were provided. The model by-laws issued by the Ministry provided that adequate means of ventilation should be provided for every habitable room.

The Director of Housing.

Asked by Mr. T. Williams to explain on what basis he calculated the expenses of the director of housing, Mr. Chamberlain said that an allowance of £500 a year for out-of-pocket expenses was fixed after careful consideration of the actual extra expenditure falling upon this officer in consequence of absence from his home on official duties for a considerable part of the year.

The Wembley Contract.

Mr. Day asked the Parliamentary Secretary to the Overseas Trade Department if he could now state whether the contract had been signed and the deposit paid for the purchase of the Wembley site of the British Imperial Exhibition; what was the amount realised by such sale; and what was the completion date of sale?

Mr. A. M. Samuel said he was informed by the liquidators that a contract had been signed and 10 per cent. deposit paid for the sale of the estate of the British Empire Exhibition for the sum of £300,000. This the liquidators, after investigation of previous offers, considered to be the most advantageous proposal received. The date fixed for completion of the purchase was October 1, 1926, but the purchasers had the option of deferring completion, if desired and after giving proper notice, until July 1, 1927, on payment of interest at 5 per cent. per annum.

The Lane Bequest.

Major Hills asked the Prime Minister what action His Majesty's Government proposed to take on the Report of the committee appointed by the late Government to consider certain questions relating to the 39 pictures bequeathed under the will of the late Sir Hugh Lane to the National Gallery in London?

Mr. Baldwin said that the Government had given very careful consideration over a prolonged period to the whole matter dealt with in this Report and they had decided that they must accept the conclusion reached by the Committee that it would be improper to modify Sir Hugh Lane's will by legislation. They had, however, received an assurance from the Trustees of the National Gallery that it was their present intention to lend to Dublin a substantial number of the pictures in question from time to time and for a substantial period, as soon as they were empowered to do so under section 4 of the National Gallery (Loan) Act, 1883—that was to say, at the expiration of 15 years from the date when the pictures came into their possession—whether a special gallery had then been provided in Dublin or not.

Building Matters.

Mr. Buchanan asked if any Report had yet been received from the committee set up to deal with prices of building materials?

Sir K. Wood said he understood that the committee had their Report under consideration and that they hoped to be able to present it shortly.

Building Trade Overtime by "Permit."

The London Federation of Building Trade Operatives has passed a resolution "that, owing to the state of national emergency that has arisen and the order of the Mines Department regarding supply of fuel and power, all overtime is suspended from this date, and that only overtime which is sanctioned by 'permit' shall be worked."

Effect of Ventilation on Health.

The Industrial Fatigue Research Board has issued a report on a physiological study of the ventilation and heating in certain factories. The work was begun in 1923, and the report contains the results obtained under practical conditions.

THE EDUCATIONAL TRAINING OF BUILDING TRADES' APPRENTICES

II.—"THE PROBLEM OF CRAFT INSTRUCTION."*

By A. DEAN, Responsible Teacher in the School for Building Apprentices, Central Technical School, Liverpool.

THE establishment of the Part-time Day School for Building Apprentices, as a department of the Central Technical, under the control of the Education Committee for the City of Liverpool, was the culminating result of a series of Conferences held in the summer of 1924. Representatives of the Liverpool and District Building and Allied Trades Employers' Association and the Liverpool Operatives were invited to meet the Technical Education Committee, under the chairmanship of Mr. J. Sandeman Allen, M.P., to consider this question. Eventually they recommended that the present building, formerly known as the Lord Roberts' Memorial Workshops, and situated in Fontenoy-street, some few minutes' walk from the Central School, should be purchased, altered and established as a school for building apprentices.

The Education Authority and the Board of Education jointly accepted the responsibility, in the confident hope that when the full two-years' course, which would form the main part of the scheme of instruction, had been completed there would be a building school in full working order at which about 100 apprentices would be in attendance each day. Allowing for a five-day week, the school would then consist of 500 apprentices, not an unduly optimistic hope considering the number employed in the industry.

It is worth noting that the final conference between the parties took place during the building strike of 1924, a very difficult period, especially in Liverpool. Such, however, was the good feeling between masters and men with respect to the proposal that it is recorded that every necessary resolution was carried unanimously, finding in each case an employer and an operative as mover and seconder. These good relations continue, at any rate in respect of the school.

A committee composed of five representatives each from the education authority, the master builders and the operatives, together with the senior teachers of the evening building department, and representatives of neighbouring technical schools were now called together to hammer out a suitable scheme. After several meetings the scheme, together with syllabuses dealing with each of the subjects, were evolved (*a*) for a preparatory course suitable for boys who had just become apprenticed to one of the building trades, and (*b*) for those already apprenticed and between the ages of 16 and 18 years serving in any of the following trades:—Carpenters and joiners, woodworking machinists, masons, bricklayers, plasterers, concretors, plumbers and allied trades. These were to form the normal trade courses. In addition a general builder's course was set up, designed for those youths mainly drawn from the office and management side of the industry, but not excluding capable boys from the separate trades.

The preparation of the syllabuses, once the scheme was defined and its objects clearly indicated, did not prove an arduous task. Generally, craft instruction was to be the central definite features of each course and every subject taught was to have a definite bearing upon craft work. The time-table adopted provided, therefore, for a period of one hour devoted to mathematics and trade calculations, one and a half hours to geometry and trade drawing, two hours to building construction, science and a consideration of building materials, with two and a half hours devoted to the study of workshop processes, applicable to the student's own craft and including free drawing of details of construction and of tools. This made in all a day of seven hours, one-third of which was to be spent in practical work. This time-table has worked very well indeed, and there does not appear, except for the addition of an evening class as an integral part of each course, any good reason for change.

The workshops, which are provided for all the trades mentioned above, are well equipped with all necessary hand tools for each trade. In addition, there is a fairly complete equipment of modern woodworking machinery, comprising a 26-in. circular saw, 12-in. planer, 26-in. band saw, chain mortising machine with boring equipment, 6-in. lathe and two single-spindle moulding machines in the machine shop, besides a Universal saw, of great utility, installed in the joiners' shop. A separate tool room is also provided, equipped with electric power, for grinding, sharpening and balancing tools common to all. The committee which was responsible for the foregoing now functions as an advisory committee. It is keen on its job and has been very useful in further developments of the scheme.

The difficult task of securing an adequate staff of teachers—a most important consideration—was next faced. A beginning was made with a staff of four teachers, all of whom were serving in schools, of one type or another, controlled by the education authority. Three of them had had from 10 to 20 years' actual experience of the building trade, while two had day-school experience of many years' duration, besides which all had the advantage of many years' service as evening teachers in the building department of the Central Technical School. The fourth teacher was also transferred from one of the Junior Technical Schools and has charge of mathematics and science generally. Instructors in brickwork and plasterers' work were appointed after consultation with the representatives of these crafts.

The enrolment of apprentices for the first full year, which commenced in August, 1925, and terminates this July, totals 213. They are sent by 72 individual firms. The table shows how they were allocated in the various trades:—

Trade.	Year. 1st.	2nd.	Total.
Joiners and woodworking machinists	48	20	68
Plasterers...	17	17	34
Bricklayers	32	15	47
Masons	9	2	11
Plumbers	19	18	37
General Builders ...	6	10	16
Total	131	82	213

The interest and sympathy of the master builders has been well maintained throughout the whole period of the year, and the actual attendance is over 90 per cent. of the possible. Some eleven apprentices have withdrawn throughout the year. In every case satisfactory reasons for doing so were given. Among the reasons given were two which related to apprentices who withdrew and left their employment on being asked to sign indentures. This may point out the necessity of reform in this direction. A close watch is kept upon attendance, and every absence, even for half a day, is reported at once to the employer. This is a practice much appreciated and is a valuable means of checking any tendency to slackness which might manifest itself. It is, however, pleasing to state that there is little tendency in this direction. The knowledge that the apprentice is under close observation both at the school and at the works is a wholesome corrective.

From the beginning it has been the intention of the Committee that some evening attendance at approved courses should be a

*Paper read at a Conference of Building Teachers held at Ilkley.

part of the scheme. But this portion of the scheme could not be carried out this year. The change from the central school to the workshop, involving as it did an enormous amount of work and a big strain upon those chiefly concerned, together with the adaptation necessary in the new workshops, were chiefly responsible for this failure. Nevertheless, quite 25 per cent. of the enrolled students did voluntarily attend the ordinary evening courses, and they were encouraged in that direction. The results were not, however, good; while they were willing workers the ordinary evening courses did not dovetail correctly with their day work. On representation made by the employers the school authorities have arranged that next year an evening attendance for one night weekly will form an integral part of the day courses, so that the original plan will thus come to fruition. These special evening classes will be distinct from the ordinary evening classes and will be available only for day apprentices.

The Liverpool scheme is essentially a voluntary one. The master builders have in general hitherto opposed compulsory attendance or the idea that every apprentice had the right to demand admittance to the school without regard to their ability to profit thereby. It is urged by the employers that every boy is not so fitted, and that it should be regarded as a privilege and not a right. They hold that youths may be admitted but cannot be made to "drink in" the instruction given. Such boys would be not only a nuisance to their fellows but add to the cost of the scheme.

In the light of experience of the last eighteen months, it is possible that some of their claims, which are, by the way, tenaciously held, may be modified, and it would appear that the time is rapidly approaching when some machinery may be devised to control the selection and admission of apprentices to the school, by the appointment of a joint interviewing committee. Greater mutual confidence would solve most of these "difficulties"; indeed, there are indications that if, given a fair chance, the product of the school will be so obviously improved that the trouble will be in a fair way to solve itself. No master would like to own an inferior apprentice. This bears strongly upon the difficulty in the establishment of preparatory classes for boys just entering the trades, say, at the age of about 15 years, of which only about twenty have been enrolled. Had these attended on a given day a beginning might have been made, but, as it is the practice to allow each master to select the day most convenient, they were spread over several days and were merged into the normal craft classes. The choice of days has been valuable to an employer, particularly in the later years. In practice it means that there is always an alternative choice of days, sometimes a double choice. Moreover, it allows the grading of boys to some extent, as it is possible by an exchange of days on which the boys may attend to accommodate employer and the school.

Returning to the question of the preparatory courses, it is intended to make a bold bid to secure these boys next session, and there are promises of success. Given success it will then be possible to retain apprentices for a period of three years. The work of the whole school should then improve enormously. It is the intention to confine instruction in the preparatory classes to work comparable to that which is done in the preliminary technical courses in the evening continuation schools.

Terminal examinations have been held in preparation for the issue of a report on the progress of each apprentice. These reports are issued in duplicate, the boy being supplied with an exact copy of the one sent to his employer. The report is a comprehensive one, taking account of all his activities, including the examinations, coupled with a considered judgment of the lad's capabilities. It becomes a valuable document and is much appreciated by the employers. At the same time opportunity is taken of advising upon the work to which the apprentice should proceed to in the following year.

Upon the satisfactory completion of the normal two-years' course arrangements are made to pass each student on to suitable evening courses. These are to be considered as the natural progression for each student, and are intended to complete the course of study begun in the day classes. Students who have shown exceptional ability will be drafted to the fourth-year building, carpentry or plumbing courses, while those whose attainments are somewhat lower will be passed on to the third-year courses. It is expected that some sixty to eighty youths will be so transferred this year. Those who do not attain a standard suitable for either the third or fourth year will be recommended to either repeat the second-year day course, if that is possible, or will be transferred to the second-year evening course most suitable to them. The advisory committee have refrained from giving any arbitrary standard for transference, and have left the whole question to the Principal and responsible teacher. It is hoped that by the end of the added two years of evening study that a standard equivalent to the final grade of the City Guilds Institute may be reached by many students.

Reference was made earlier of the decision of the Committee to provide for compulsory attendance for one evening per week for all apprentices attending the day classes. Arrangements have been made which provide for sixteen additional classes of twenty to twenty-five apprentices to carry out the extra teaching services involved. These classes are, of course, only open to day students and are to be considered as an integral part of the scheme. It is intended that the preparatory classes will wholly confine their attention to woodwork associated with trade drawing of a suitable character. The first-year classes will spend the time in drawing, along with such theoretical work as is necessary in amplification thereof, while the second year will confine their attention to practical craft work in each trade. There will be of necessity some exceptions, notably in the general builders and masonry courses, both of which years will be concerned with drawing and details of construction. Therefore the amended time-table will show seven hours' theoretical work and written work plus two hours' practical work for the preparatory classes, 6½ hours' theoretical work plus 2½ hours' practical work for the first-year classes, and 4½ hours each in theoretical and practical work for the second-year classes.

Provision is made for twenty-three separate day classes for next year, commencing on August 16, and it is expected that there will be some 300 apprentices in the normal courses, together with, it is hoped, at least eighty in the preparatory section. It is intended that some ten or twelve lectures, illustrated by lantern slides, dealing with special phases of building work of general interest, will be given by lecturers specially qualified in their respective subjects.

It may be asked, what do the apprentices themselves think of this work, and what is the opinion of the workers in the trades towards the effort? It would appear that the journeymen generally are very friendly. What little objection there may be is not very articulate, but there is reason for thinking that a few foremen do not unduly inconvenience themselves by making satisfactory arrangements for the attendance of the apprentices. This may be perfectly natural and is to be expected. On the other hand, many of our best lads are sons of managers and foremen—a telling circumstance. They are among the keenest lads and are very rarely absent. Regarding the lads themselves, they are generally a happy crowd. After the "newness" and the tendency to regard the day as being in the nature of a "day off with pay" has worn away—and it quickly vanishes, especially when homework is set—they settle down to do good work. A number of expressions of gratitude have been received from the boys indicating that they appreciate all that is done for them.

LAW REPORTS

HIGGS & HILL, LTD., v. BROWN AND OTHERS.

KING'S BENCH DIVISION.

(Mr. Justice Horridge.)

On July 5 a settlement of this action was announced, it being an action brought by Messrs. Higgs & Hill, Ltd., to recover damages for alleged libel from Mr. Ernest Jas. Brown and other officials and members of the Council of the London Master Builders' Association.

Sir Edward Marshall-Hall, K.C., for Messrs. Higgs & Hill, Ltd., stated that his clients were at one time members of the London Master Builders' Association, and when they withdrew from membership they were asked to sign a certain document. They said they were prepared to sign part of it, but declined to sign the whole, and the defendants thereupon circulated among numerous contractors, architects and others a statement that Messrs. Higgs & Hill were paying to their workpeople more than the standard rate of wages. The result might have been very disastrous to Messrs. Higgs & Hill, but they had carried on and minimised their loss as much as possible. There was no foundation for the statement but the defendants had acted in good faith and now recognised that they had made a mistake. The record would be withdrawn on the terms endorsed on Counsel's briefs.

Mr. Stuart Bevan, K.C., for the defendants, said his clients very much regretted the publication of the allegations, which had now been completely demonstrated to have been without foundation. On behalf of the Association he was instructed to say that if the plaintiffs thought fit to rejoin the Association the defendants would gladly welcome them back as members of the Association.

Following are the terms of settlement:—

1. Case to be put into the List at an early date this term and leading counsel on both sides to be briefed, and following terms to be briefly stated by counsel.

2. Defendants to state that the accusations of payment in excess of standard rate (although admittedly made in good faith) against plaintiffs are now seen not to have been justified. A generous expression of regret to be made by counsel on behalf of defendants and the L.M.B.A.

3. Defendants and L.M.B.A. are glad to state their belief that plaintiffs, in their action in 1924, were not actuated by selfish or unworthy motives, but solely in disagreement with the policy pursued by the Association at that time in their negotiations with the operatives.

4. Defendants and L.M.B.A. undertake immediately to raise the boycott and cancel any special measures taken under the Association's by-laws against plaintiffs, declaring them at an end.

5. L.M.B.A. will forthwith circularise all its members with a statement of these terms. Such circular also at the same time to be sent to all persons, firms, and bodies to whom the letters and circulars sued on were sent.

6. Counsel for the defendants and L.M.B.A. to state that the question of costs has been the subject of an amicable arrangement between the parties.

7. Counsel for defendants and L.M.B.A. to state that they will gladly welcome plaintiffs back into membership.

8. The plaintiffs, by their counsel, will agree to accept the foregoing undertakings, and are glad to state their belief that the Association, in framing the regulations and by-laws of November, 1924, and in the subsequent enforcement of them against the plaintiffs, were actuated by the sole motives of regulating, so far as lay in their power, the conduct of individual members of the industry in the best interests of the whole.

9. The defendants agree, in addition to the circularisation described above, that the plain-

tiffs shall be at liberty to send the circular to the trade and daily papers should they so desire.

Dated 30th June, 1926.

For and on behalf of L.M.B.A.: Ernest J. Brown, director; W. J. Rudderham, secretary.
For and on behalf of defendants: Kenneth Brown Baker Baker, solicitors.
For and on behalf of plaintiffs: Bull & Bull, solicitors.

BUILDER'S NOTICE—QUESTION OF REASONABLENESS.

In the Palatine Chancery Court, at Manchester, on June 17, before the Vice-Chancellor, Mr. Courthope Wilson, K.C., the trial was concluded of an action brought by John Andrew Plaskett, a bank clerk, against Harry P. Griffiths, a builder and contractor at Stockport, to recover the additional cost incurred through the failure of the department to carry out a housebuilding contract with reasonable dispatch. Mr. H. Rhodes appeared for the plaintiff, and the defendant was represented by Mr. J. Bennett.

Mr. Plaskett said in February, 1924, he bought a plot of land at Dingle Close, Romiley, and made a contract with Mr. Griffiths to build a two-story dwelling house for £840. From time to time he made payments on account, the total being £757. Work began about the end of April, 1924, and was stopped by the strike in the building trade. It afterwards proceeded very slowly, and Mr. Griffiths claimed extra payment to meet the increased cost of materials, although the contract was made for a fixed sum irrespective of any changes in prices. The work came to a standstill, and three days' notice was given in January, 1926, under clause 26 in the schedule of conditions sanctioned by the Royal Institute of British Architects, which had been incorporated in the contract. This clause entitled the employer to require the contractor to proceed with the work with reasonable diligence and dispatch, and if he did not comply, the employer could take possession and have the work completed by another contractor, using the plant and materials already on the site. Mr. Griffiths did not comply with the notice and refused to give up possession unless the contract was treated as being mutually broken, and the work he had done was measured up and paid for. After an application had been made in the Chancery Court for an injunction against him, he gave way, and the plaintiff engaged another contractor, who finished the job. The total cost was £1,469 9s., and the plaintiff now asked the Court to order the defendant to pay the difference between this sum and the contract price plus certain extras. The defence was that the notice given was vexatious and unreasonable.

Stanley Jones, the plaintiff's architect, said by a clerical error the number of days' notice to be given was not filled in. In his opinion three days was a reasonable period. When it was given the work had been stopped for a month. Two other architects, John Swarbrick, and Walter William Taylor, gave similar evidence as to the reasonableness of the three days' period.

Harry Griffiths said he had 35 years' experience of the building industry, and the usual practice was to give 14 days' notice, and the shortest period he had known was seven days. When he left the job three-fourths had been done. The amount charged for finishing it off was excessive.

Wilfred Thorpe and Harold Newsome, architects, stated that 14 days was the proper period, and three days quite unreasonable.

The Vice-Chancellor said the plaintiff had shown a considerable amount of forbearance, and the notice was given perfectly properly. It was quite clear there had been a default on the part of the defendant. He had chosen to enter into a contract in which a blank was left before the word "days," and it was binding on him. Owing to circumstances for which he was not responsible—the strike in the building trade—the contract became unprofitable, and it was to his interest to break it and be paid for the work done on the basis of *quantum meruit*. But the plaintiff was not obliged to concur in that and had chosen, as he was entitled to do, to exercise his rights under clause 26 and employ someone else to do the work. Under the contract he was now entitled to the difference between the amount agreed upon with the defendant and the actual cost, and there would be judgment in his favour for £524 10s., with costs. A counterclaim by the defendant for payment on the *quantum meruit* basis was dismissed.

A stay of execution was granted on terms.

PRIVATE STREET WORKS—FRONTAGERS' SUCCESSFUL CLAIM.

The adjourned hearing took place recently, at the Croydon Borough Bench, of the case in which some twenty frontagers in St. George's-road objected to the specification of private street works proposed by the Wallington Urban District Council. Sir A. Spurgeon was chairman of the Bench; Mr. L. Sholefield, K.C., was for the District Council; and Mr. G. J. Naldrett for the frontagers.

The frontagers claimed that the road should be made up in a less expensive manner than that proposed, which represented a cost of £1 12s. 7d. per foot; that the value of work already done to the eastern part of the road, which was originally made up as a "builder's road" some thirty years ago, should be credited to the frontagers in that part of the road exclusively; and that the road should be made up in sections, one for the part which was originally made up and another for the extended part of the road which had never been made up in any way. It was urged that the proposed method of making up the road was too costly for what was really a purely residential street with no likelihood of through traffic, though the District Council contended that if the road were not now so made up there would be subsequently increased burdens on the ratepayers.

After a legal argument, the Bench returned and decided in favour of the frontagers on the following lines:—

(1) That the degree of benefit advanced to frontagers of the western end of the road shall be reduced from 50 per cent. to 20 per cent.

(2) Tar paving shall be substituted for artificial stone for the footways.

(3) Width of channelling to be reduced by one-half.

(4) Entrances to garages shall be of granolithic with cement concrete foundation instead of granite setts.

(5) Plans and specifications and estimates for the work to be submitted to the Bench for signature.

The Bench allowed the frontagers £50 towards their costs.

Braintree's New Town Hall.

The clearing of the site for the new Town Hall and municipal buildings to be presented to the town of Braintree has just been commenced. The structure is to be a red brick building, in the Georgian style, with white stone dressings. Messrs. Harris & Courtauld, London, are the architects. The contractors for the clearing of the site and the laying of the foundations are Messrs. Walter Lawrence & Son, Ltd., Finsbury-square, London. Tenders for the superstructure have yet to be considered.

Victoria Tramway Terminus.

At a meeting of the L.C.C., Mr. J. D. Gilbert asked whether the Highways Committee had considered the possibility of effecting improvement in the tramway terminus at the Victoria end of Vauxhall Bridge-road. He also asked whether the committee would consider the provision of a loop line at that terminus in order to stop what he described as "the awful crowding and congestion which now takes place there at the rush hours." Mr. C. W. Matthews (Chairman of the Committee), replied that the matter was being considered.

NEW BUILDINGS IN LONDON.

Acton.—A group of 32 houses is to be erected on a housing estate, with road works, at a cost of about £22,000. The West End Building Co., builders, 122, Mitcham-lane, Streatham, S.W.

Alexandra Park.—A new hall, to accommodate 370 persons, is to be erected in connection with St. Saviour's Church at Alexandra Park, N., at a cost of about £5,500. Mr. R. Mansell, builder, Grant-road, Croydon. Messrs. Alder & Turrill, architects, Effingham House, Arundel-street, Strand, W.C.

Caterham.—It is proposed to build a modern picture theatre adjacent to the High-street, to provide accommodation for 700 seats. Mr. G. A. Fortesque, A.R.I.B.A., architect, 46, Dover-street, W.1.

Cheapside.—A small site at the junction of Cheapside, E.C.2, and St. Martin's-le-Grand is to be sold for building purposes. Messrs. Gunton & Gunton, architects, Finsbury House, Blomfield-street, E.C.2.

Chelsea.—At a meeting of the Chelsea Housing Association it was announced that it was proposed to build workmen's dwellings on a site in Chelsea.

Clapham Common.—The Governors of the Royal Masonic Institution for Girls at Clapham Common, S.W.11, are considering a proposal to purchase a site for the rebuilding and enlargement of the Senior School. Mr. A. Burnet Brown, P.G.D., Grand Superintendent of Works, Freemasons' Hall, Great Queen-street, Kingsway, W.C. Mr. Maurice Beechcroft, secretary.

Clerkenwell.—It has been decided to form a Charity Commission scheme in order to accelerate the raising of funds for the reconstruction of Sadlers Wells Theatre in Rosebery-avenue, E.C.1., so that the building work may be put in hand this summer. Messrs. Frank Matcham & Co., architects, 9, Warwick-court, High Holborn, W.C.2.

East Ham.—A row of 30 houses is to be built on a site in Central Park-road, E., of villa type. Mr. F. Hamlett, builder, Cotswold Works, Barking-road, E.13.

Fleet-street.—Demolition of old property in Shoe-lane, Fleet-street, E.C.4, is in hand prior to the erection of an extension to the printing works and warehouses of the London Express Newspapers, Ltd., 8, Shoe-lane, E.C.4, proprietors of the *Daily Express*.

Great Portland-street.—A site with frontages of 36 ft. and 33 ft. and a depth of 100 ft. is to be sold for development. Motor showrooms with flats and shops are suggested. Messrs. Douglas Kershaw & Co., surveyors, 2, Princes-street, Hanover-square, W.1.

Hatton Garden.—Funds are being raised for the extension of the accommodation of the workshop in Hatton Garden, W.C., by the Central Fund for the Industrial Welfare of Tuberculous Persons and for the provision of other workshops in the City. Secretary, 41, Denison House, 296, Vauxhall Bridge-road, S.W.1.

Heiron-street.—The Duophone and Unbreakable Record Co., Ltd., are arranging to build an automatically operated plant for the production of unbreakable records, at an estimated cost of £15,000, at the works at Heiron-street, S.E.17. Mr. J. H. S. Howard, secretary, 26, Budge-row, E.C.4.

Highbury.—The Independent Order of Oddfellows is about to erect a hall and a block of 12 modern flats at Highbury. Mr. M. K. Matthews, F.S.I., 72, Tottenham Court-road, W.1, is the architect.

Houndsditch.—The completed design for the block of offices and warehouses in Goring-street and Camomile-street, E.C.3, to be known as "Bevis Marks House," for Messrs. Bevis Marks, Ltd., merchants, provides for a further building on the site at the corner of Houndsditch and Goring-street, E.C. Messrs. Lewis Solomon & Sons, architects, 115, Moorgate, E.C.2.

Islington.—New warehouses are to be erected on a site at the junction of Eagle Wharf-road and Shepherdess-road, N.1. Sir John W. Simpson, P.P.R.I.B.A., architect, 3, Verulam Buildings, Gray's Inn, W.C.

Kensington.—The National Provincial Bank, Ltd., 15, Bishopsgate, E.C.3, have purchased the corner property known as Nos. 55, 57, 59, and 61, Kensington High-street, and 1 and 3, Young-street, W.8.

Leman-street.—A new warehouse is to be erected on a site in Leman-street, E.1, by the Co-operative Wholesale Society, Ltd., 99, Leman-street, E.1, consisting of four floors, the site having now been excavated. Mr. L. G. Ekins, F.R.I.B.A., architect to the Society.

Morden.—A large garage is to be erected at the Morden Underground Station by the Electric Railways Company of London, Ltd., for the parking of about 200 motor-cars, &c., with light repair workshops, petrol storage tanks, &c. Plans by Mr. Stanley Heaps, architect to the Company, 55, Broadway, Westminster, S.W.1.

New Cross.—Funds are being collected towards a proposal for the building of a new church hall in Shardeloes-road, S.E., in connection with St. George's Church. Messrs. E. Procter & Partners, architects, 83, St. Paul's Churchyard, E.C.4.

New Cross.—New engineering workshops are being erected in Childers-street, New Cross, S.E.14, for Messrs. J. Stone & Co., Ltd., engineers. Mr. Thomas D. Leng, builder, Czar-street Works, New Cross, S.E. Messrs. Redpath, Brown & Co., Ltd., steelwork, 3, Laurence Pountney-hill, Cannon-street, E.C.4. Mr. Alfred Roberts, architect, 92, London-road, Greenwich, S.E.10.

Oxford-street.—Demolition has commenced on the centre portion of the premises of Messrs. Selfridge & Co., Ltd., prior to the erection of the central entrance lobby and tower, with shops, showrooms, &c. Messrs. H. Sabey & Co., Ltd., South Wharf, Paddington Basin, W.2, demolition and excavation. Messrs. Graham, Anderson, Probst & White, 11, Hanover-square, W.1, and Sir John Burnet & Partners, 1, Montague-street, W.1, joint architects.

Pimlico.—Work has been started upon the enlargement of St. Mary's Church, Graham-street, S.W.1.

Regent's Park.—A freehold island site of 4 acres, with extensive road frontages, is being negotiated for for disposal. Messrs. Ernest Yates & Co., surveyors, St. Ermins, Caxton-street, Westminster, S.W.1.

Regent-street.—Foundations are in hand for the additional stories to be added to the Regent-street Polytechnic, W.1, part of a £250,000 enlargement. Messrs. Nox, Ltd., builders, 44, Praed-street, Paddington, W.2. Mr. Frederick J. Wills, F.R.I.B.A., architect, 62, Oxford-street, W.1.

Richmond.—It is proposed to expend about £1,000 on alterations to the Vineyard Church Schools, including improvements to the heating and sanitary arrangements. Mr. Grahame Cowell, secretary.

Rotherhithe.—The foundation stone has been laid of a new Norwegian sailors' church in connection with the Rotherhithe Sailors' Home. Mr. J. E. S. Dahl, architect, Radnor Chambers, Folkestone.

St. James's-square.—No. 29, St. James's-square, S.W.1, with a frontage of 160 ft. and an area of over 4,000 sq. ft., is being negotiated for with a view to development. Messrs. Hampton & Son, surveyors, 20, St. James's-square, S.W.1.

Sutton.—A portion of the Buff House estate is to be developed by the erection of residential property, including a number of shops. Messrs. Edser & Brown, Ltd., builders, Westmead Farm, Westmead-road, Sutton.

Westminster.—At the annual court of governors of the Infants' Hospital it was announced that the question of extending the buildings of the institution in Vincent-square, W.1, was receiving close attention.

Wimbledon.—Several sites in Wimbledon Park, S.W., have been sold for building purposes. Messrs. Hampton & Sons, surveyors, 20, St. James's-square, S.W.1.

Wimbledon.—The Banky Field Estate, which adjoins Wimbledon Park, S.W., is to be developed for building purposes, and residences of various types are to be erected. Messrs. Knight, Frank & Rutley, surveyors, 20, Hanover-square, W.1.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons.	Bricklayers.	Carp'ters. Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Lab'rers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cambridge	1/6	1/6	1/6	1/6	1/8	1/6	1/6	1/1½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Dudley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
E. Glam. (Mon. Vall.)	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Eastbourne	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/0½
Exeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/1½
Folkestone	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/2
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
Grantham	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Grays	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Grimsby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Guildford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/0½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/1½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/3
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Leamington Spa	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leeds	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1 6½	1/6½	1/3½
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4½
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/3½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4½
London { 12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9	1/4
London { 12-15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/3½
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Reading	1/6	1/6	1/6	1/6	1/8	1/8	1/8	1/3½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
St. Albans	1/6½	1/6½	1/6½	1/6½	1/8	1/6½	1/6½	1/3½
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/1½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/5	1/3½
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Windsor	1/6	1/6	1/6	1/6	1/8	1/6	1/8	1/3½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4½

(For rates of wages in the Building Trade in Scotland, see page 72.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

JULY 12.—**Accrington.**—ADDITIONS.—Nurses' Home proposed to be built in the ground of the District Victoria Hospital, abutting on Haywood-street, for the Committee. Wm. J. Newton, F.R.I.B.A. (Chartered Architect and Civil Engineer), Honorary Architect. Deposit £3 3s.

JULY 12.—**Alnwick.**—HOUSES.—Twelve houses on the Victoria-terrace site, for the U.D.C. J. Temple Robson, chartered surveyor.

JULY 12.—**Barnes.**—ADDITIONS.—To the isolation hospital in South Worple-way, Mortlake, for the U.D.C. G. B. Tomes, engineer and surveyor, High-street, Mortlake, S.W.15. Deposit £1 1s.

JULY 12.—**Barnet.**—PAINTING.—At the Isolation Hospital, Mays-lane, for the Isolation Hospital Committee. W. H. Trevellick, Clerk, 1, Wellhouse-lane.

JULY 12.—**Birkenhead.**—BUILDING.—Destructor house and other works at the North-end destructor, Cleveland-street, Birkenhead, for the C.B. Chas. Brownridge, Borough Engineer and Surveyor. Deposit £1 1s.

JULY 12.—**Chesterfield.**—HOUSES.—Fifty houses at Beighton, for the R.D.C. P. B. Houlton & Co., architects, Furnival Chambers.

JULY 12.—**Chesterfield.**—OFFICES.—Offices for the Tramways and Omnibus Department of the Corporation at Thornfield, Sheffield-road, for the T.C. Bailey Deeping, architect, 12, Gluman-gate. Deposit £2 2s.

JULY 12.—**East Preston.**—COTTAGES.—Eight cottages at Clapham, for the R.D.C. B. E. Booker, surveyor, Red Roof, Mill-lane, Rustington, Littlehampton.

JULY 12.—**Gellygaer.**—SUB-STATION.—Fire engine sub-station at Bontnewydds-terrace, Trelewis, for the U.D.C. F. Read, Engineer and Surveyor, Council Offices, Hengoed.

JULY 12.—**Glasgow.**—HEATING.—Heating installation for Kelvin Hall, for the T.C. J. Lindsay, Town Clerk. Deposit £10 10s.

JULY 12.—**Hemsworth.**—HOUSES.—Seventy-six non-parlour type houses, with the necessary roads, sewers, fences, and footpaths, at Kinsley, near Pontefract, for the U.D.C. A. Wright, Clerk, Council Offices, Barnsley-road, Hemsworth, near Pontefract. Deposit £1 1s.

JULY 12.—**Hitchin.**—COTTAGES.—Group No. 2, Erection of 64, for the U.D.C. Surveyor, Town Hall, Hitchin. Deposit £2 2s.

JULY 12.—**Keighley.**—WIRING.—Electric wiring of the twenty houses on the Broomhill estate, for the T.C. Borough Architect.

JULY 12.—**Kingston-upon-Thames.**—HOUSES.—Erection of 50 non-parlour houses, for the Corporation. Borough Surveyor, Municipal Offices, Kingston-upon-Thames. Deposit £1 1s.

JULY 12.—**London.**—CLEANING, REPAINTING, &c.—(1) Albert Bridge, (2) Wandsworth Bridge, (3) Barking-road Bridge, (4) Bow Bridge, (5) Rosemary Branch Bridge and Cat and Mutton Bridge, and (6) Woolwich ferry buildings, approach bridges, &c., for the L.C.C. Chief Engineer of the Council, Old County Hall, Spring-gardens, S.W.1. Deposit, £1 in each case, by cheque or draft to the order of the L.C.C.

JULY 12.—**London.**—PAINTING AND DECORATING.—Painting and decorating certain chambers and other buildings in the Middle Temple. Treasury Office, 2, Plowden Buildings, Middle Temple-lane, E.C.4.

JULY 12.—**Manchester.**—HEATING.—Heating and hot-water supply apparatus at the Birchfields-road tramcar depot, for the T.C. City Architect. Deposit £1 1s.

JULY 12.—**Milngavie.**—HOUSES.—Thirty-six flatted houses at Craigton-road, for the T.C. F. A. B. Preston, L.R.I.B.A., 6, Buchanan-street. Deposit £1 1s.

JULY 12.—**Newmilns and Greenholm.**—COTTAGES.—Twelve semi-detached cottages, for the T.C. J. H. Gilmour, Burgh Surveyor.

JULY 12.—**Nuneaton.**—HOME.—Nurses' home and extensions to the hospital in Manor Park-avenue, for the District General Hospital Committee. H. N. Jepson, architect and surveyor, Queens Buildings. Deposit £2 2s.

JULY 12.—**Plymouth.**—HOUSES.—Erection of 256 houses at North Prospect for the Corporation. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

JULY 12.—**Plymouth.**—PAINTING.—Internal painting of certain schools, for the E.C. E. Chandler Cook, Secretary for Education, Education Office, Coburg-street.

JULY 12.—**Plymouth.**—RE-SLATING.—Re-slating roofs of certain schools, for the E.C. E. Chandler Cook, Secretary for Education, Education Office, Coburg-street.

JULY 12.—**Scammonden.**—SCHOOL.—Erection of the new church school at Deanhead. J. Berry & Sons, architects and surveyors, 3, Market-place, Huddersfield.

JULY 12.—**Sheffield.**—ADAPTATIONS.—In connection with the adaptation of the female infirm block at the Ecclesall Infirmary for use as a Nurses' Home, for the B.G. L. Richmond, Clerk.

JULY 12.—**Sheffield.**—BUILDING.—Registrar's lodge and office, public conveniences, &c., at Shiregreen cemetery, for the T.C. W. G. Davies, A.R.I.B.A., City Architect. Deposit £2.

JULY 12.—**Sowerby Bridge.**—PAINTING.—External painting of the whole of the Secondary School premises, including all railings, for the Governors. L. Rhodes, Clerk to the Governors, Commercial Bank Chambers, Halifax.

JULY 12.—**Spenborough.**—LIGHTING.—Installation of electric light at the Millbridge Council mixed and infants' school, Vernon-road, Liversedge, for the E.C. Director of Education, Education Offices, Bradford-road, Cleckheaton.

JULY 12.—**Tetbury, Glos.**—HOUSES.—Erection of 12 houses of either parlour or non-parlour type, for the U.D.C. Geoffrey Hearsey, A.M.R.S.L.A.I.A.S., Engineer and Surveyor, Surveyor's Office, Tetbury.

JULY 12.—**Twickenham.**—BUILDING, ALTERATIONS, ADDITIONS, &c.—Erection of new isolation block, alterations and additions to scarlet fever block, and other works in connection therewith, at the Council's Isolation Hospital, Nelson-road. Surveyor to the Council, Town Hall, Twickenham. Deposit £2 2s.

JULY 12.—**Wars.**—HOUSES.—Erection of 30, for the working classes in the district on sites provided, for the R.D.C. Council's Architects, Messrs. Cherry & Lutyens, 7, Buckingham-street, Adelphi, W.C.2. Deposit £2.

JULY 12.—**West Riding.**—PAINTING.—Painting and renovating the following schools:—Bentley Cook-street Council, Bawtry Council, Awkley Council, Stainton Council, for the C.C. L. J. Blackburn, Education Offices, 20, Christ Church-road, Doncaster.

JULY 12.—**Weston-super-Mare.**—HOSPITAL BUILDINGS.—Erection of new buildings and alterations to the existing buildings, for the Governors of the Weston-super-Mare Hospital. Ernest E. Baker, Hon. Secretary, The Hospital, Weston-super-Mare.

JULY 13.—**Dunfermline.**—HOUSES.—For (a) Twenty on sites at Townhill, and (b) eight at Kingseat, Dunfermline, for the T.C. A. Shearer, Town Clerk.

JULY 13.—**Ealing.**—PAINTING.—Painting and decorating the following schools: Little Ealing, Northfields (including construction of new dormers), Drayton, and the erection of new urinal at St. John's school, for the T.C. W. R. Hicks, Borough Engineer. Deposit 10s. 6d.

JULY 13.—**Hawick.**—PAINTING.—Painter work of four blocks of flatted houses at Bright-street, for the T.C. John R. Purdom, Town Clerk. Deposit £2 2s.

JULY 13.—**Hove.**—PAINTING.—External painting at Connaught-road school and internal painting and other work at Ellen-street school, for the E.C. H. H. Scott, Borough Surveyor.

*JULY 13.—**London.**—CHAPEL.—Erection of a chapel at the Bermondsey and Rotherhithe Hospital, Lower-road, Rotherhithe, S.E., for the Guardians of the Parish of Bermondsey. Henry H. Reeve, Clerk to the Guardians, Guardians' Offices, 283, Tooley-street, S.E.1. Deposit £5 Bank of England note (cheques or cash will not be received).

*JULY 13.—**London.**—REDECORATION.—(a) Internal redecoration of Girls' Training Centre, (b) internal redecoration of school buildings at the Shirley Schools, Wickham-road, Shirley, near Croydon, for the Guardians of the Parish of Bermondsey. Henry H. Reeve, Clerk to the Guardians, Guardians' Offices, 283, Tooley-street, S.E.1, between 10 a.m. and 12 noon on July 9, 12 and 13. Deposit £5 Bank of England note (cheques or cash will not be received).

JULY 13.—**Manchester.**—LIGHTING.—Installation of electric lighting at the following schools:—Wilbraham-road Municipal school, Withington; Ravensbury-street Municipal schools, Clayton: (1) infants' department only, (2) boys' and girls' departments only; Claremont-road Municipal school, Moss Side, boys' and girls' departments only, for the E.C. P. M. Heath, Town Clerk.

JULY 13.—**Nottingham.**—PAINTING.—At various police stations in the City, for the T.C. T. Wallis Gordon, City Engineer and Surveyor. Deposit £1.

JULY 13.—**Otley.**—CONVENIENCES.—New conveniences at Otley North Parade Council school, for the West Riding E.C. The Education Department, County Hall, Wakefield.

JULY 13.—**Plymouth.**—CONVENIENCE.—Ladies' convenience at Devonport Park, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

JULY 13.—**Plymouth.**—OFFICE.—Weights and Measures Office, Morice Town, for the C.B. J. Wibberley, Borough Engineer and Surveyor. Deposit £2 2s.

JULY 13.—**Redhill, Surrey.**—TELEPHONE EXCHANGE.—Erection of, at Merstham, Redhill, for the Commissioners H.M.O.W. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

JULY 13.—**Salford.**—HEATING.—Extension of heating and hot-water services at the administrative offices in Eccles New-road, for the B.G. L. Knowles, consulting engineer, 22, Bridge-street, Manchester.

JULY 13.—**South Shields.**—SHOPS.—Six shops, with houses over, on the Cleadon Park estate, at the junction of Park-avenue and Sunderland-road, for the C.B. S. G. Stanton, Borough Engineer. Deposit £2 2s.

JULY 13.—**Thorne.**—SCHOOL.—New school, for the West Riding E.C. The Education Department, County Hall, Wakefield.

JULY 13.—**West Derby.**—ALTERATIONS.—To form No. 2 bathrooms inside lower blocks "F" and "G" an external painting to block "N," for the B.G. B. Bailey, L.R.I.B.A., 9, Cook-street, Liverpool.

JULY 13.—**West Derby.**—PAINTING.—Internal painting to administrative and nursery blocks at Cottage Homes, Olive Mount, Wavertree, for the B.G. E. B. Bailey, L.R.I.B.A., F.S.I., 9, Cook-street, Liverpool.

JULY 13.—**West Hartlepool.**—BUILDING.—For (a) the construction of new quick opening doors at the fire station, (b) the extension of shop 16, The Market Hall, for the C.B. F. Durkin, Borough Engineer.

JULY 13.—**Willesden.**—ALTERATIONS.—For (a) taking out the existing sinks and providing and fixing new special hospital pattern combination sinks in the sanitary annexe to the sick wards and the maternity block at the Park Royal Hospital, Acton-lane; (b) new entrance gates, piers, and railings, widening the approach thereto and erecting a covered way to the porter's lodge at the same hospital, for the B.G. A. Saxon Snell & Phillips, architects, 9, Bentinck-street, Manchester-square, W.1. Deposit £2 each.

JULY 13.—**Worsborough.**—ADDITIONS.—Alterations and additions at Worsborough, Birdwell Council School, for the West Riding E.C. The Education Department, County Hall, Wakefield.

JULY 14.—**Alnwick.**—HOUSES.—Ten houses in pairs, in St. George's-crescent, for the U.D.C. G. Reavell, F.R.I.B.A., Lloyds Bank-chambers.

*JULY 14.—**Bucks.**—ALTERATIONS, ADDITIONS AND REPAIRS.—At the Church of England Schools, Datchet, Bucks., for the Vicar and Managers. A. H. Ryan Tenison, F.R.I.B.A., architect, 21, Great Peter-street, Westminster, S.W. Deposit, £2 2s.

JULY 14.—**Cork.**—RESTORATION.—Of McCurtain-street ex-R.I.C. barracks, for the Commissioners of Public Works. J. J. Healy, Secretary, Oifig Oibreach Puibli (Office of Public Works), Baile Atha Cliath (Dublin). Deposit £1.

JULY 14.—**Dublin.**—RE-SLATING.—For (a) re-slating and re-glazing portion of roof of fruit and vegetable market, and (b) external and internal painting work at 25 to 29, Castle-street, for the C.B. J. J. Murphy, Town Clerk.

JULY 14.—**Kent and London.**—CLEANING AND PAINTING WORKS.—To various hospitals, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1 in respect of each work.

JULY 14.—**London.**—ALTERATION AND EXTENSION.—To the electricity sub-station, at Evelyn-street, Hoxton, N.1. Office of the Borough Surveyor, T. L. Hustler, Town Hall, Old-street, E.C.2. Deposit 2 guineas.

JULY 14.—**London, Kent and Surrey.**—CLEANING AND PAINTING WORKS.—At various places to buildings for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1 in respect of each work.

JULY 14.—**London and Surrey.**—CONCRETE BUNKERS, ALTERATIONS, &c.—(1) New concrete coal bunkers at South Eastern Hospital, Avonley-road, S.E.14; (2) alterations to laundry, Lambeth Casual Ward, Wincott-street, S.E.11; (3) re-arrangement of needle-room, Queen Mary's Hospital, Carshalton, Surrey, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1 in respect of each work.

JULY 14.—**Nottingham.**—PAINTING.—Cleaning and painting at the undermentioned schools: Internal and external—Coventry-road Council school, Bulwell; internal, Carrington Council school, Claremont-road; external, Clarendon-street Council school, Radford-boulevard Council school, Sneinton Council school, Notintone-street, Sneinton-boulevard Council school, Sneinton Dale Council school, Sycamore-road Council school; also for lime-washing school out-offices in the following districts—Northern, Hyson Green, New Basford, and Sherwood, Eastern, Central, Sneinton and Meadows, for the E.C. A. H. Whipple, Director of Education, Education Offices, South-parade. Deposit £1 each.

JULY 14.—**Plymouth.**—DECORATION.—Internal decoration of the Western Law Courts, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

JULY 14.—**Reading.**—ADDITIONS.—To the motor omnibus garage (steel framed building, terra-cotta block filling, inspection pits, &c.), at the Tramway Power Station, Mill-lane, for the C.B. Borough Surveyor. Deposit £2 2s.

JULY 14.—**Reading.**—ADDITIONS.—Additions to "Dellwood" Maternity Home, situate in Liebenrood-road—(1) staff quarters, (2) isolation ward, and for alterations to the existing buildings, for the C.B. Borough Surveyor. Deposit £2 2s.

JULY 14.—**Richmond, Surrey.**—COTTAGES.—Erection of 35 parlour and 28 non-parlour type cottages on the Manor-road estate, for the Town Council. Borough Engineer and Surveyor, Town Hall, Richmond, Surrey. Deposit £1 1s.

JULY 14.—**Smethwick.**—CONVENIENCE.—Convenience for both sexes at West Smethwick Park, for the C.B. R. Fletcher, Borough Engineer and Surveyor.

JULY 14.—**Stamford.**—HOUSES.—Erection of 28 houses on the New Cross-road housing site, for the Borough Council. Borough Engineer, Town Hall, Stamford. Deposit £3 3s.

JULY 15.—**Berryden.**—DAIRY.—Dairy to be built at Berryden, for the Northern Co-operative Society, Ltd. Tawse & Allan, architects, 10, Bon-Accord-square, Aberdeen.

JULY 15.—**Blaenclydach.**—PAINTING.—Painting of the boundary wire mesh fencing (approx. 1,500 yds.) to the Association grounds and children's playground, for the Cambrian Welfare Association. R. S. Griffiths & Partners, architects, Tonypandy.

JULY 15.—**Bournemouth.**—BUNGALOWS.—Twenty-five timber bungalows at Toft Steps, for the C.B. F. P. Dolamore, Borough Engineer. Deposit £1 1s.

JULY 15.—**Burtonwood.**—SCHOOL.—Council school for 264 scholars at Burtonwood, near Warrington, for the Lancashire E.C. H. Littler, County Architect, 16, Ribblesdale-place, Preston. Deposit £2.

JULY 15.—**Cork.**—HOUSES.—Ten houses at Ballinlough-road, Cork, for the Irish Sailors' and Soldiers'

Land Trust. R. E. Beckerson, chief clerk, 30, Lower Fitzwilliam-street, Dublin. Deposit £2 2s.

JULY 15.—**Dublin.**—SCHOOL.—Boys' school at Marino, Fairview, for the Christian Brothers. W. H. Byrne & Son, architects, 20, Suffolk-street, Dublin. Deposit £5 5s.

JULY 15.—**Gilfach Goch.**—HOUSES.—Twelve houses, for the Llantrisant and Llantwit Fardre R.D.C. Thomas & Morgan & Partners, architects and engineers, Pontypridd. Deposit £2 2s.

JULY 15.—**Guildford.**—REPAINTING.—Repainting externally the infirmary and nurses' home at the Institution, Warren-road, for the B.G. Norris & Shattock, architects, 51, High-street.

✱JULY 15.—**Hendon.**—DWELLINGS.—Erection of non-parlour working-class dwellings of a superficial floor area not less than 750 ft., either in brick, concrete, steel or other special approved methods of construction on various sites. Engineer and Surveyor (H. W. Rackham), Council Offices, Stanmore.

JULY 15.—**London.**—ALTERATIONS AND REPAIRS.—At the Paddington Infirmary, 285, Harrow-road, W.9, for the Paddington Board of Guardians. P. Biddulph Hancock, Clerk, Guardians' Offices, 313–319, Harrow-road, W.9.

JULY 15.—**London.**—BUILDING.—(1) Erection of an anæsthetic room, and (2) erection of balconies, and the plastering of walls, at the Highgate Hospital, Dartmouth Park Hill, London, N.19, for the Guardians of the Poor of the Parish of St. Pancras. B. Chapman, Clerk, Guardians' Offices, Town Hall, Pancras-road, N.W.1. Deposit £2 2s.

✱JULY 15.—**London.**—CLEANING, PAINTING, &c.—Internal cleaning and painting works, new flooring and ceilings, provision of new stoves, the re-construction of a sanitary annexe, with new sanitary fittings, &c., at the Newington Institution, Westmoreland-road, S.E., for the Guardians of the Southwark Union. Guardians' Architect, A. Saxon Snell & Phillips, FF.R.I.B.A., 9, Bentinck-street, Manchester-square, W.1, on July 12, 13, 14 and 15, between the hours of 10 a.m. and 4 p.m. Deposit £5.

JULY 15.—**Hounslow.**—HOUSES.—Erection of sixteen semi-detached non-parlour type houses on the Pear Tree Estate, Hounslow, for the U.D.C. J. G. Carey, A.M.Inst.C.E., Council House, Hounslow. Deposit £2 2s.

JULY 15.—**Norfolk.**—POLICE STATION AND RESIDENCES.—Erection of a new Norwich Divisional Police Station and residences, Thorpe-road, Norwich, for the Norfolk Standing Joint Committee. A. F. Scott & Sons, FF.R.I.B.A., architects and surveyors, 24, Castle Meadow, Norwich. Deposit £1 1s.

JULY 15.—**South Shields.**—HOUSES.—192 Houses, for the R.D.C. T. E. Gilchrist, surveyor and architect, East Boldon. Deposit £3 3s.

JULY 16.—**Epping.**—HOUSES.—Erection of fourteen, in pairs, for the U.D.C. H. Webb, Surveyor to the Council, Epping. Deposit £1 1s.

JULY 16.—**Fort William.**—HOUSES.—Thirty-two houses in all on a site between Alma-road and Victoria-road, for the T.C. G. MacRitchie, architect.

JULY 16 — **Kingston-upon-Thames.** — NURSES' HOME AND CASUALTY WARDS, &c.—Erection and completion of a new nurses' home, casualty and receiving wards, porter's lodge, steward's office, steward's house, porter's flats, medical superintendent's house, mortuary, and garage; also an extension of the existing nurses' home, and the new roads, boundary walls, &c., at the hospital in Kingston Hill and Wolverton-avenue, for the Guardians of the Union. W. Taylor, solicitor, Clerk to the Guardians, Union Offices, Kingston-upon-Thames. Deposit £10 10s. (cheques payable to the treasurer).

JULY 16.—**Liverpool.**—SUB-STATION.—Electric sub-station, Queen's-drive, Stoneycroft, for the T.C. Land Steward and Surveyor.

JULY 16.—**West Bromwich.**—BUILDING.—For (1) Nurses' home, and (2) mortuary and post-mortem room, at the Union, for the B.G. J. P. Osborne & Son, architects, 95, Colmore-row, Birmingham. Deposit £5 5s

JULY 17.—**Altrincham.**—ADDITIONS.—Alterations and additions to Housewifery Centre at Altrincham Bradbury Central School, for the Chester C.C. F. Anstead Browne, F.R.I.B.A., County Architect, Newgate-street, Chester. Deposit £1 1s.

JULY 17.—**Chapel-en-le-Frith.**—PAINTING.—Outside painting of the Council houses at Town End, Chapel-en-le-Frith, Fernilee, Hope, and Bamford, for the R.D.C. John Hughes, Property Manager, Reservoir-road, Whaley Bridge.

JULY 17.—**Chapel-en-le-Frith.**—HOUSES.—Seventeen non-parlour houses at Town End, Chapel-en-le-Frith, and nine at Jenny-lane, Bugsworth, for the R.D.C. T. Dinsdale, Inspector and Surveyor. Deposit £2 2s.

JULY 17.—**Edinburgh.**—CONVENIENCE.—Public convenience at Slateford Village, for the T.C. A. Horsburgh Campbell, Burgh Engineer.

JULY 17.—**Evesham.**—HOUSES.—Twelve at North Littleton, six at Harvington, for the R.D.C. R. J. Atkinson, Surveyor, Union Offices. Deposit £2 2s.

JULY 17.—**Horsforth.**—HOUSES.—Forty scullery type houses, 40 kitchen parlour type houses, 20 parlour type houses, in batches of about 8 or 10, on the Cragg Hill site, for the U.D.C. Jas. E. Aldersley, Housing Architect.

JULY 17.—**Hove.**—PAINTING.—External painting of the Public Library, for the T.C. Borough Surveyor.

✱JULY 17.—**Preston, Lancs.**—SCHOOL.—Erection of a new infants' school in Ellesmere-road, Pemberton, Wigan (semi-permanent type, timber-framed) to accommodate 160 children. Wilfrid C. Mangan, architect and surveyor, 18, Guildhall-street, Preston, Lancs. Deposit £1 1s.

JULY 17.—**Saltash.**—HOUSES.—Ten houses in the Corporation Field, facing New-road, for the T.C. Borough Surveyor. Deposit £2 2s.

JULY 17.—**Staines.**—REPAIR AND DECORATION.—Of forty-two cottages on the Worple-road estate, for the U.D.C. E. J. Barrett, A.M.Inst.C.E., Town Hall, Staines.

JULY 17.—**St. Helens.**—HEATING.—Removal of the existing heating system and the provision of new heating system at the Town Hall, for the C.B. A. W. Bradley, Borough and Water Engineer. Deposit £1.

JULY 18.—**Chippenham.**—HOUSES.—Eight parlour and twenty-two non-parlour houses, for the T.C. A. E. Adams, Borough Surveyor. Deposit £2 2s.

JULY 19.—**Dover.**—REBUILDING.—New cubical block, laundry block and various works to the Isolation Hospital, Noah's Ark-road, for the T.C. J. F. Duthoit, A.R.I.B.A., architect. Deposit £2 2s.

JULY 19.—**Edinburgh.**—ALTERATIONS.—For (1) engineering work, comprising laundry machinery, steam pipes, filters, calorifiers, &c.; (2) plumber work; (3) mason, concreter, joiner, plasterer, and tiler work, for the alterations at Portobello baths, for the T.C. J. MacRae, A.R.I.B.A., City Architect.

JULY 19.—**Glamorgan.**—PAINTING.—Painting 30 schools in the Eastern Division and 15 schools in the Western Division, for the C.C. T. Mansel Franklen, Secretary of the E.C., Glamorgan County Hall, Cardiff.

JULY 19.—**Heckmondwike.**—HOUSES.—Thirty-four non-parlour houses at Stubley estate, for the U.D.C. F. W. Littlewood, Surveyor.

JULY 19.—**Jedburgh.**—HOUSES.—Two blocks of four houses each, for the T.C. Burgh Surveyor.

JULY 19.—**Keighley.**—ADDITIONS.—Alterations and additions (conveniences) at the Grammar school, for the West Riding E.C. The Education Department, County Hall, Wakefield.

JULY 19.—**Liverpool.**—SCHOOL.—Junior mixed section of the Duncombe-road Council school, for the T.C. Land Steward and Surveyor. Deposit £2 2s.

JULY 19.—**Pembroke.**—LIBRARY.—Public library at Anglesea-road, Ballsbridge, Co. Dublin, for the U.D.C. Kaye-Parry, Ross & Hendy, architects, 48, Kildare-street, Dublin. Deposit £1.

JULY 19.—**Pudsey.**—HOUSES.—Twenty parlour and 16 non-parlour type houses on the Carlisle-road estate, for the T.C. H. Noble, Borough Surveyor. Deposit £1 1s.

JULY 19.—**Sheffield.**—GARAGE.—General builders' work at Tenter-street depot and garage, for the T.C. W. G. Davies, A.R.I.B.A., City Architect. Deposit £2.

JULY 19.—**Shibden.**—BUNGALOW.—Two detached bungalows on adjacent sites at Red Beck. G. R. Oddy, L.R.I.B.A., architect and surveyor, Ward's End Chambers, Halifax.

JULY 19.—**Skipton.**—EXTENSION.—Extension of the dining-room at the Grammar School, for the West Riding E.C. Education Department, County Hall, Wakefield.

JULY 19.—**Wantage.**—COTTAGES.—Erection of 30 in the parishes of East Ilsley (6), Chaddleworth (6), Letcombe Bassett (6), Childrey (4), Harwell (4), and East Hendred (4). Parishes of East Ilsley and Chaddleworth, H. H. Parkhouse, Charlton-road, Wantage; parishes of Letcombe Bassett, Childrey, Harwell, and East Hendred, J. W. Harris, East Challow, Wantage. Deposit £1 1s.

JULY 19.—**Wood Green.**—HOUSES.—Erection of 47 on the White Hart-lane estate, for the U.D.C. Engineer and Surveyor (Mr. C. H. Croxford), Town Hall, Wood Green. Deposit £1 1s.

✱JULY 20.—**Brentford.**—HOUSES.—Erection of (*a*) 118 houses and, alternatively, (*b*) 39 houses, (*c*) 27 houses, (*d*) 23 houses, and (*e*) 29 houses, on land fronting Lionel-road, Brentford, for the U.D.C. W. J. W. Westlake, F.S.I., Surveyor to the Council, Clifden House, Boston-road, Brentford. Deposit £1 1s.

JULY 20.—**Haslingden.**—HOUSES.—Sixty-eight brick houses on the Clarence site, Helmshore-road, for the T.C. R. Taylor, Borough Surveyor. Deposit £2 2s.

JULY 20.—**Northam.**—ENLARGING.—Enlarging the Melbury Reservoir, Parkham, for the U.D.C. W. G. Champion, surveyor.

JULY 20.—**Nottingham.**—PAINTING.—Painting various buildings, &c., at the Cattle Market, London-road, and Meadow-lane, for the T.C. T. Wallis Gordon, City Engineer and Surveyor. Deposit £1.

JULY 20.—**Prescot.**—HOUSES.—Twelve houses on Stanley's Croft, for the U.D.C. W. Ellis, architect, 9, Hardshaw-street, St. Helens. Deposit £1 1s.

JULY 20.—**Whittlesey.**—HOUSES.—Eight houses at Burnt House-road, near Three Horse Shoes, for the R.D.C. H. W. Hawkins, Old Fletton, Peterborough. Deposit £1 1s.

JULY 21.—**Barnet.**—HOUSES.—Erection and completion of nine pairs of parlour type houses in Mutton-lane, Potters Bar, for the South Mimms R.D.C. H. W. Poole, solicitor, Clerk to the Council, 93, High-street, Barnet.

JULY 21.—**Chester.**—ADDITIONS.—Alterations and additions to the City and County School for Boys, Queen's Park, for the T.C. C. Greenwood, City Engineer and Surveyor. Deposit £1 1s.

JULY 21.—**Hove.**—PAINTING.—The external wood and iron work of the Cemetery Lodge and Chapels, for the T.C. Borough Surveyor.

JULY 21.—**Lanchester.**—HOUSES.—Twelve bungalows at Ebchester, for the R.D.C. J. J. S. Barker, clerk.

JULY 21.—**London.**—DWELLINGS.—Three blocks of dwellings on the Whitmore estate (Ware-street area), Shoreditch, for the L.C.C. Architect to the Council, the County Hall (Room No. 3), Westminster Bridge, S.E.1. Deposit £2.

JULY 21.—**Ongar.**—DWELLINGS.—For (*a*) three pairs at Mill-lane, High Ongar; (*b*) two pairs at Little Myles, Stondon; (*c*) two pairs at Moreton End, Moreton; (*d*) one pair at Church Field, Doddinghurst; (*e*) one pair at Ladyland, Norton Mandeville, for the R.D.C. P. R. B. Pearce, Housing Surveyor.

✱JULY 22.—**Bexleyheath.**—HOUSES.—Erection, of four semi-detached houses in Highland-road Bexleyheath, for the U.D.C. W. T. Howse, Surveyor to the Council, Council Offices. Deposit £1 1s.

JULY 23.—**Glasgow.**—PAINTING.—Cleaning and painting work required to be executed at the vertical retort setting, &c., Dawsholm Gas Works, for the T.C. General Manager, Gas Department, 30, John-street.

✱JULY 23.—**Staffordshire.**—EMPLOYMENT EXCHANGE—Erection and completion of an employment exchange at Willenhall, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit 1 guinea (cheques payable to the Commissioners).

✱JULY 23.—**Watford.**—HOUSES.—Erection of 22 parlour, on the Harebreaks estate, Watford, for the Corporation. W. W. Newman, A.M.I.C.E., F.S.I., Borough Engineer, Municipal Offices, 14, High-street, Watford. Deposit £2 2s., payable to the Borough Treasurer.

JULY 24.—**Derby.**—NEW HOSPITAL.—Erection of, opposite to the Poor Law Institution, on Uttoxeter-road, Derby, for the Guardians of the Union. Ralph Grantham, Clerk to the Guardians, Poor Law Offices, Derby. Deposit £3 3s.

JULY 24.—**Leamington Spa.**—COTTAGES.—Erection of 66, to be built in pairs (semi-detached), for the Corporation. Borough Engineer, Town Hall, Leamington Spa. Deposit £2 2s.

✱JULY 24.—**Surrey.**—HOUSE.—Erection of a house to be occupied by the Clerk and Steward at Brookwood Mental Hospital, near Woking, for the County of Surrey Lunatic Asylum Visiting Committee. F. J. Hodgson, Lic. R.I.B.A., 36, High-street, Guildford. Deposit, £1 1s.

✱JULY 26.—**Chiswick.**—CONVERSION AND BUILDING.—(*a*) Conversion of existing school buildings at Glebe-street, Chiswick, into blocks of fourteen flats, and (*b*) the erection of eight new blocks of four flats each at Strand-on-the-Green, Chiswick, for the U.D.C. Edward Wallis, F.S.I., M.Inst.C.E., architect, Town Hall, Chiswick, W. 4. Deposit, £2 2s. in respect of each scheme.

JULY 26.—**East Preston.**—PAINTING.—External painting and repairs to the premises of the Poor Law Institution at East Preston, near Littlehampton, for the B.G. J. W. Calvert, Clerk, East-street, Littlehampton.

✱JULY 26.—**Portsmouth.**—HOMES.—New Children's Homes, Peaked Field, Cosham, Portsmouth, for the Guardians of the Parish. G. E. Smith, L.R.I.B.A., architect, Victoria-road North, Southsea. Deposit, £3 3s.

JULY 27.—**Doncaster.**—HOUSES.—Eighty-one houses at Hexthorpe, for the T.C. F. Oscar Kirby, Borough Engineer, 2, Priory-place. Deposit £2 2s.

JULY 27.—**March.**—OFFICES.—Block of offices in extension of the County Hall, for the Isle of Ely C.C. R. S. W. Perkins, County Surveyor, Lynn-road, Wisbech. Deposit £3 3s.

✱JULY 27.—**Richmond, Surrey.**—BATHS AND LAUNDRY.—Extension to the Public Baths and provision of a new laundry at Parkshot, Richmond, for the Town Council. Borough Engineer and Surveyor, Town Hall, Richmond. Deposit £1 1s.

JULY 28.—**Edinburgh.**—HEATING.—Installation of a heating system at motor-bus garage, Annandale-street, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

✱JULY 28.—**London.**—ALTERATIONS AND ADDITIONS.—To the Laundry at the Cottage Homes, Hornchurch, near Romford, Essex, for the Guardians of the Poor of the Parish of Saint Leonard, Shoreditch. Guardians' Architect, F. Danby Smith, F.R.I.B.A., Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £2 in Treasury notes.

✱JULY 28.—**Southampton.**—SCHOOL.—Remodelling of Beaulieu Council school, including the erection of new cloakroom, verandah and offices, &c., for the County Council. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s., by cheque, payable to the Hants County Council, and crossed "Lloyds Bank, Ltd., Capital and Counties Branch, Winchester."

JULY 28.—**Wembley.**—COTTAGES, &c.—Erection of thirty brick-built cottages and twenty flatted cottages, in the extension of the Christchurch estate, Ealing-road, for the Wembley U.D.C. Cecil R. W. Chapman, Engineer and Surveyor, Council Offices, Wembley. Deposit £2 2s.

JULY 31.—**Bellerby.**—PAINTING.—Painting and decorating Bellerby Church interior. Rev. C. A White, Bellerby Vicarage, Leyburn, S.O.

AUGUST 5.—**Glasgow.**—TENEMENTS.—Fifty-five tenements, comprising 330 houses, at Possil, for the T.C. J. Lindsay, Town Clerk.

AUGUST 5.—**Kilkeel.**—LIGHTING.—For (*a*) cold starting crude oil engine; (*b*) generator, booster and switchboard; (*c*) storage battery; (*d*) pole erection work; (*e*) Line erection work; (*f*) erection of power house, for the R.D.C. P. T. White, Consulting Engineer, 50, Queen-street, Newry. Deposit £1 1s.

NO DATE.—**Ballymore.**—REPAIRS.—Repairs for Ballymore Parish Church, Tandragee. Dr. Taylor, secretary.

NO DATE.—**Cork.**—CREAMERY.—Central creamery at Millstreet, for the St. Brendan's Creamery. Manager, St. Brendan's Creamery, Millstreet, Co. Cork.

NO DATE.—**Countess Wear.**—BUNGALOW.—Bungalow and petrol filling station on the Topsham-road at Countess Wear. E. H. Harbottle & Sons, architects, County Chambers, Exeter.

NO DATE.—**Dumbarton (Eastern District).**—HOUSES.—248 houses at Duntocher Village, Dumbartonshire:—(1) Roads, house drains, and garden paths; (2) painter work; (3) iron fencing; (4) timber fencing and stob and wire fencing, for the D.C. of the C.C. J. Weekes, F.R.I.B.A., County Architect, 88, College-street Dumbarton.

NO DATE.—**Dundee.**—HOUSING.—Brick, joiner, glazier, slater, plumber, plaster, and painter works, electric lighting, and grates, for the 4th development of the Craigiebank housing scheme, for the T.C. G Baxter, Director of Housing, 91, Commercial-street.

NO DATE.—**Fearn.**—BUILDING.—Repairs to the Ecclesiastical buildings. D. Matheson, architect, Dingwall.

NO DATE.—**Great Smeaton.**—HALL.—Village hall at Great Smeaton. R. S. Stancliffe, Great Smeaton, Northallerton.

NO DATE.—**Rhymney.**—ALTERATIONS.—Extensions and alterations to the Rhymney Workmen's Cottage Hospital for the Rhymney Cottage Hospital Committee. A. F Webb, L.R.I.B.A., architect, Tredegar-chambers, Blackwood, Mon. Deposit £2 2s.

MATERIALS, etc.

JULY 12.—**Bristol.**—MATERIALS.—Bricks, slates, drain pipes, for the Port of Bristol Authority. T. A. Peace, Engineer, Chief Engineer's Office, Avonmouth Dock.

JULY 12.—**Droylsden.**—MATERIALS.—Bricks (common), brick headings, castings for gullies, &c., cement, earthenware pipes, flags (concrete), gritstone (kerb and ballast), granite, limestone chippings, pitch, &c., sand, &c., for the U.D.C. Surveyor.

JULY 12.—**North Walsham.**—GRANITE.—Broken granite, granite chips, broken flints, binding silt, and for road rolling and carting materials, for the U.D.C. W. Morris, Surveyor.

JULY 12.—**Plymouth.**—TUBES.—300 yds. of 54 in. diameter reinforced concrete tubes, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

JULY 12.—**West Riding.**—ROAD MATERIAL.—Granite setts required in connection with highway repair, for the C.C. West Riding Surveyor, County Hall, Wakefield.

JULY 14.—**Durham.**—PIPES.—Cast-iron pipes from 2 in. to 6 in. diameter, for the County Water Board. W. Read Ward, Clerk, 25, Northgate, Darlington.

JULY 14.—**Leeds.**—GRANITE.—17,000 lin. yds. of straight and 600 lin. yds. of circular granite kerb, or alternatively, hard York stone kerb, for the T.C. E. W. Cockerlync, Highways Engineer, 1, Swinegate.

JULY 23.—**Ireland.**—WINDOWS.—180 timber framed windows, glazed and finished complete for openings of total external area of about 5,427 sq. ft., for the Commissioners of Public Works. J. J. Healy, Secretary, Oifig Oibreach Puibli (Office of Public Works), Baile Atha Cliath (Dublin). Deposit £1.

ENGINEERING, IRON AND STEEL.

JULY 12.—**Darlington.**—STEELWORK.—Supplying and erecting the steelwork, &c., comprising stanchions, roof trusses, gutters, and down pipes, required in the construction of two roofs over pens at the Cattle Market, for the C.B. Borough Surveyor.

JULY 12.—**Edinburgh.**—STRUCTURAL STEEL.—Structural steelwork, for the proposed public washhouses, Leith, for the T.C. R. J. MacRae, A.R.I.B.A.

JULY 14.—**East Lothian.**—BRIDGE.—New steel bridge at East Linton over the main line of the L. & N.E. Ry. Co. P. Clarke, C.E., Dunbar, surveyor. Deposit £3 3s.

JULY 14.—**London.**—STEELWORK.—Structural steelwork for saw mill and gantry (*i.e.*, 1,320 tons structural steelwork, 50½ tons galvanised gutters, pipes, paling, &c.), for the Madras & Southern Mahratta Rly. Co. Directors, 25, Buckingham Palace-road, S.W.1. Charge £1 1s.

JULY 15.—**Lorn.**—BRIDGE.—Three reinforced concrete bridges at Loch Creban and Lagganmore, in the Lorn District, for the Argyll C.C. W. Macdonald, District Road Surveyor, Columba Buildings, Oban. Deposit £2.

JULY 16.—**Ilkley.**—POND, &C.—Reconstruction of Hainsworth pond into a children's wading pool, for the U.D.C. J. M. Gameson, surveyor.

JULY 19.—**Epsom.**—DRAINAGE.—Construction of purification works, consisting of screen chamber, four settlement tanks, four bacterial filters, three humus tanks, sludge pumping station, effluent pipe and other works, at the sewage treatment works, near Worcester Park Station, for the R.D.C. J. Taylor & Sons, engineers, Caxton House, Westminster, S.W.1. Deposit £5.

✱JULY 19.—**Epsom.**—RESERVOIR.—Reinforced concrete service reservoir to contain two million gallons, complete with valve house and the necessary pipe connections on land adjoining the Council's existing service reservoir at Downs-road, for the U.D.C. W. Vaux Graham, 5, Queen Anne's Gate, Westminster, S.W.1. Deposit £5.

JULY 19.—**Manchester.**—WIDENING.—Of Moston-lane bridge over the L.M. & S. Rly., Moston for the T.C. City Engineer. Deposit £3 3s.

JULY 19.—**Wakefield.**—TUNNEL.—Construction of a tunnel, 800 yds. in length, with inlet and outlet basins, at Barkisland, near Sowerby Bridge, for the Waterworks Committee. C. C. Smith, Waterworks Engineer. Town Hall. Deposit £2 2s.

JULY 21.—**Essex.**—RECONSTRUCTION.—Reconstruction of Pleshey Bridge, carrying the road from Great Waltham to Pleshey, for the C.C. W. H. Morgan, Chartered Civil Engineer, County Surveyor, Old Court, Chelmsford.

JULY 26.—**Penarth.**—WIDENING.—Ferro-concrete construction in the carrying out of the widening of the pier, for the U.D.C. L. G. Mouchel & Partners, Ltd., 36-38, Victoria-street, Westminster, S.W.1. Deposit £5 5s.

SEPTEMBER 15.—**Siam.**—BRIDGES.—Superstructures of steel railway bridges, for the Administration of the Royal State Railways of Siam, Bangkok. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £1 10s.

DECEMBER 1.—**Denmark.**—BRIDGE.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

ROAD, SEWERAGE, AND WATER WORKS.

JULY 12.—**Balrothery.**—EXTENSIONS.—For (1) extension of public sewer; (2) extension of water mains, at Malahide, for the R.D.C. J. Stack, Clerk, Board Room, Workhouse, Lusk.

JULY 12.—**Barnes.**—EXTENSIONS.—Forming, kerbing, channelling, paving, metalling, draining, and making-up a new road, known as Grove-road extension, for the U.D.C. G. B. Tomes, Surveyor, Council House, High-street, Mortlake, S.W. 14.

JULY 12.—**Barnes.**—MAKING-UP.—Of Lowther-road (second portion), Westmoreland-road (third portion), and the Byeway, for the U.D.C. G. B. Tomes, surveyor, High-street, Mortlake, S.W. 14.

JULY 12.—**Failsworth.**—MAKING-UP.—Sewering, levelling, paving, metalling, flagging, channelling, and making-up of part of road No. 2 and part of road No. 4, in connection with the Council's housing scheme, Lord-lane, for the U.D.C. J. W. E. Brown, engineer and surveyor.

JULY 12.—**Hanwell.**—REPAIRS.—For (1) Lowering of roadway under Haffendens-bridge, Church-road, and laying of surface-water culvert, &c., and (2) surfacing various roads with tarred slag or tarred macadam, for the U.D.C. Surveyor, Council Offices, Hanwell, W. 7.

JULY 12.—**Innerleithen.**—SEWERS.—200 lineal yds. roadway, 32 ft. wide, including footpaths, kerbing, and channelling, also laying 416 lineal yds. sewer, 18 in. to 9 in. diameter, in connection with housing scheme at Pirn site, for the T.C. J. C. Miller, C.E., Burgh Surveyor.

JULY 12.—**Manchester.**—SEWERING.—For sewering, draining, paving (with concrete), flagging (artificial flags), &c., Peel-street East, Newton Heath, and flagging (artificial flags), curbing, and channelling passage behind 9-39 and adjoining 41, Cedar-street, &c., Cheetham, for the T.C. P. M. Heath, Town Clerk. Deposit £1 1s.

JULY 12.—**Plymouth.**—MAKING-UP.—Of Pounds Park-road, Sussex-place (Ford), Washington-lane, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

JULY 12.—**Tetbury.**—SEWER.—Laying of about 1,600 ft. of 24 in. × 16 in. egg-shaped granite concrete sewer, for the U.D.C. G. Hearsey, engineer and surveyor.

✱JULY 13.—**Bermondsey.**—ROADS.—Repairing roads at the Ladywell Institution, Ladywell-road, S.E., for the Guardians of the Parish of Bermondsey, Henry H. Reeve, Clerk to the Guardians, Guardians' Offices, 283, Tooley-street, S.E.1, between 10 and 12 noon on July 9, 12 and 13. Deposit £5 Bank of England note (cheques or cash will not be received).

JULY 13.—**Brighton.**—SEWERAGE.—Extension of the Lewes-road relief sewer, 5 ft. 10 in. × 4 ft. 6 in., and other incidental works in Lewes-road, between Upper Lewes-road and Hollingdean-road, for the C.B. D. Edwards, Borough Engineer and Surveyor. Deposit £2 2s.

JULY 13.—**Ealing.**—MAKING-UP.—Of Rosemount-road, Briarbank-road, Elm Grove-road, Ascott-avenue, Tring-avenue (from 12-14 inclusive), for the T. C. W. R. Hicks, Borough Engineer. Deposit 10s. 6d. each.

JULY 13.—**Gateshead.**—PAVING.—Of (1) Thirlwell-road; (2) Coulthards-lane; (3) Joicey-road (from Durham-road to Dryden-road); (4) Beck Ellwood-gardens South; (5) Holyoake-street; (6) Pensher-street, for the C.B. H. P. Pattinson, Borough Engineer.

JULY 14.—**Batley.**—PIPES.—Laying and jointing of a pipe line between the Brownhill reservoir, now in course of construction near Holmbridge, and a point on the Cooper Bridge-road near Cooper Bridge Station, on the L.M. & S. Ry., for the T.C. G. H. Hill & Sons (Manchester), civil engineers, 40, Kennedy-street, Manchester. Deposit £3 3s.

JULY 14.—**Belfast.**—MAIN.—Laying a 3 in. water main on Doagh-road, Whitehouse, for the R.D.C. W. D. R. Taggart, C.E., engineer.

JULY 14.—**Cockermouth.**—MAIN.—1,500 lin. yds. 3 in. cast-iron water main at Tallantire, including the necessary air valves, sluice valves, hydrants and connections, for the R.D.C. A. Johnson, engineer, A.M.Inst.C.E., Grecian Villa.

JULY 14.—**Kent and Surrey.**—ROAD WORKS.—(1) Concrete road in laundry yard, at Darenth Training Colony, Dartford, Kent; (2) repair to roads, &c., at The Downs Hospital, Sutton, Surrey, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1 in respect of each work.

JULY 14.—**Leeds.**—PAVING.—Kerbing, flagging, tar paved footpaths, paving, and tar macadamising in the following private streets:—Cross Cardigan-terrace (part), back Cardigan-row, Poole-crescent (part), Ancaster-road (part), Greenland-street (part), Greenland-place, and two-coat asphalt macadam surfacing of portion of the highway in Holbeck-lane and West-street, for the T.C. Highways and Permanent Way Engineer, 1, Swinegate. Deposit £1 1s. each.

JULY 14.—**Newbury.**—RESURFACING.—For the resurfacing with tarred or bituminous materials of (*a*) King's-road. and (*b*) Shaw-road, for the T.C. Borough Engineer and Surveyor.

JULY 14.—**Watford.**—RECONSTRUCTION.—Reconstruction of a portion of St. Alban's-road (about 3,500 sq. yds. in extent), with concrete foundation and bituminous surfacing, for the T.C. W. W. Newman, Borough Engineer. Deposit £2 2s.

JULY 15.—**Wirral.**—SEWER.—Construction of twin cast-iron 18 in. outfall sewers, with concrete, piles, valve chamber and manholes, on the shore and through embankment at Leasowe, near Birkenhead, for the R.D.C. W. Webb Shennan, engineer and surveyor, 15, Hamilton-square, Birkenhead. Deposit £3 3s.

JULY 16.—**Atcham.**—SEWERS.—3,600 yds. of 15 in., 12 in. and 9 in. stoneware pipe sewers, together with sewage settling tanks, bacteria beds, and other incidental work, for the R.D.C. Willcox & Raikes, engineers, 63, Temple-row, Birmingham. Deposit £5 5s.

JULY 16.—**St. Mellons.**—ROAD.—For (1) improvement and diversion of about 100 yards in length of the road known as Barrack-lane, St. Woolos; and (2) the provision and laying of about 400 yards of 3 in. diameter cast iron mains in new streets in the parish of Rumney; and (3) the provision and laying of about 520 yards of 6 in. diameter stone-ware pipe sewer in private land, for the R.D.C. Thomas & Morgan & Partners, Civil Engineers, Pontypridd. Deposit £2 2s.

JULY 16.—**Southgate.**—SEWERS.—Construction of a foul sewer, consisting of about 420 yds. lin. 9 in. diameter and 174 yds. lin. 18 in. diameter stoneware pipes, and for a surface water sewer, consisting of about 138 yds. lin. 24 in. diameter, 342 yds. lin. 27 in. diameter, and 477 yds. lin. 30 in. diameter, 217 yds. lin. 33 in. diameter and 146 yds. lin. 36 in. diameter concrete tubes, with necessary manholes, &c., in Hedge-lane and Connaught-gardens, for the U.D.C. R. Phillips, Surveyor.

JULY 19.—**Hebden Bridge.**—REPAVING.—Repaving of Hollins-place from Keighley-road to opposite 9, Commercial-street, and paving of Keighley-road from Nutclough to Old Lees-road, for the U.D.C. H. L. Bottomley, Engineer and Surveyor.

JULY 19.—**Rochford.**—ROAD.—Laying of surface water drainage and making a reinforced concrete road at Great Stambridge, for the R.D.C. A. C. Madge, surveyor, Rayleigh. Deposit £1 1s.

JULY 20.—**Epsom.**—MAKING-UP.—Making-up of part of Upper Mulgrave-road, Cheam, for the R.D.C. T. E. Ware, surveyor, Waterloo-road.

JULY 20.—**Tottenham.**—MAKING-UP.—Of Crowland-road (3rd section), for the U.D.C. Engineer. Charge 10s. 6d.

JULY 21.—**Ebbw Vale.**—FOUNDATIONS.—Taking up the existing surface and laying a 6 in. concrete foundation and other incidental work thereto at Market-street, for the U.D.C. P. I. Davies, engineer and surveyor. Deposit £2.

JULY 21.—**Glamorgan.**—WIDENING.—Widening and diversion of Waterton-lane between Coychurch and the Cardiff Swansea main road, for the C.C. T. Mansel Franklen, Clerk of the C.C., Glamorgan County Hall, Cardiff.

JULY 21.—**London.**—REPAVING.—Repaving of footways, Uxbridge-road, with 2½ in. "non-slip" artificial paving, an approximate area of 10,885 super yards, for the Hammersmith B.C. R. Hampton Clucas, Engineer and Surveyor, Town Hall, Hammersmith, W.6.

JULY 22.—**Doncaster.**—MAKING-UP.—Of Sunnymede-avenue and Sunnymede-terrace, for the R.D.C. W. R. Crabtree, surveyor.

JULY 24.—**Sutherland.**—WIDENING.—For (1) Widening, resurfacing, and bottoming 2½ miles of road near Lochinver; (2) resurfacing and tar spraying 6 miles of road between Inveran and Invernauld; (3) tar spraying various main roads, approximate area 140,000 sq. yds.; (4) construction of a bridge (two spans of 20 ft.) on Stratmore-road, for the C.C. County Road Surveyor, Golspie.

JULY 26.—**Glasgow.**—SEWER.—Brick sewer in Aitkenhead-road and Glebe-road, for the T.C. J. Lindsay, Town Clerk.

JULY 28.—**Haslemere.**—MAKING-UP.—Of Derby-road, Church-road, for the U.D.C. C. A. Best, surveyor, West-street. Deposit £1 1s.

Competitions.

(*See Competition News page* 42.)

Auction Sales, Tenders, etc.

✱JULY 13.—**London, S.W.**—Veryard & Yates will sell, without reserve (in rear of Calder's-row, opposite New Park-road), timber and building materials. Auctioneers, 365, Norwood-road, S.E. 27.

JULY 13 AND FOLLOWING DAYS.—**London.**—Fuller, Horsey & Co. will sell, in lots, at the Merchants' Hall, Baltic Exchange, St. Mary Axe, E.C.3, clearance sale of general merchant's stock, on account of retirement from business, builders', contractors' and miscellaneous stores laying at London-street, Bethnal Green, E.2. Auctioneers, 11, Billiter-square, E.C.3.

JULY 13.—**Queensferry (near Chester).**—Offers will be received for the purchase of the remainder of Queensferry (near Chester) housing estate, consisting of 159 modern occupied houses. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

✱JULY 21.—**Isle of Grain.**—H. & R. L. Cobb, amalgamated with Daniel Smith, Oakley & Garrard, will sell on the premises, Isle of Grain Aerodrome, where facilities for water, rail and road transports are immediately available, valuable machinery and building materials. Auctioneers, 4 and 5, Charles-street, St. James's-square, S.W.2, and Cathedral Chambers, Rochester.

JULY 21.—**London.**—St. Quintin, Son & Stanley will submit for letting by auction, by order of the City Lands Committee of the Corporation of the City of London, building site now occupied by premises known as Nos. 40 and 40A, King William-street. Auctioneers, 34, Clement's-lane, Lombard-street, E.C.4.

JULY 22.—**London.**—Hampton & Sons will sell (unless previously sold) in the St. James'-square Estate Rooms, freehold building property of over 22½ acres between Newhaven and Peacehaven. Auctioneers, 20, St. James'-square, S.W.1.

JULY 22.—**London.**—Knight, Frank & Rutley will sell, as a whole or in lots, freehold residential and building estate known as Little Heath Wood, comprising a commodious country house, building land frontage about 4,100 ft.; the whole extends to an area of about 43½ acres, with vacant possession. Auctioneers, 20, Hanover-square, W.1.

JULY 22.—**London.**—Knight, Frank & Rutley will sell as a whole or in lots (unless previously sold privately), in the Hanover-square Estate Room, freehold and residential and building estate, known as Little Heath Wood, Potters Bar, comprising a

commodious country house. Auctioneers, 20, Hanover-square, W.1.

JULY 27, 28 AND 29.—**Glossop.**—William Davies & Son will sell in conjunction with Perry & Phillips, on the premises, Glossop Hall, the whole of the valuable interior and exterior fixtures and fittings previous to demolition of the mansion. Auctioneers, W. D. & Son, 9, Albert-square, Manchester, or P. & P., High-street, Bridgnorth.

✱JULY 28.—**St. Albans.**—Stimpson, Lock & Vince will sell, at the "Pea Hen" Hotel, St. Albans (unless sold privately in the meantime), freehold mansion, "Marshalswick," St. Albans, comprising 23 bedrooms, &c., to be sold for conversion into school, hotel, &c.; also 50 acres of building land in convenient parcels. Auctioneers, 35, Chequer-street, St. Albans.

SEPTEMBER NEXT.—**London.**—Knight, Frank & Rutley will sell at the Hanover-square Estate Room (unless previously sold privately), freehold residential and building estate, known as Greenhill Park, Barnet, residence, lodge, &c. Auctioneers, 20, Hanover-square, W.1.

Public Appointments.

✱JULY 15.—**London.**—District Surveyor for the districts of Battersea, Bermondsey, Bethnal Green, Chelsea, Hackney, E., St. Pancras, N., and Woolwich, N., respectively, required by the L.C.C. Clerk to the Council, The County Hall, Westminster Bridge, S.E.1.

✱JULY 16.—**London.**—WHOLE TIME INSTRUCTOR.—Of carpentry and joinery, with a knowledge of woodworking machinery, qualified to teach advanced carpentry and joinery, both practical and theoretical, and to give instruction to junior classes in engineer's pattern-making, at the Hackney Institute, Dalston-lane, E. 8, by the L.C.C. Education Officer (T.1A), The County Hall Westminster Bridge, S.E 1. (Stamped addressed envelope necessary.)

✱JULY 31.—**Rangoon.**—EXECUTIVE CIVIL ENGINEER.—Required by the Rangoon Development Trust. The engagement in the first instance will be for a period of three years, but it is possible that a permanent appointment may follow. J. Lumsden Rae (Reference R.2530), Dartmouth House, 2, Queen Anne's-gate, London, S.W. 1.

✱NO DATE.—**East Ham.**—TEACHER OF BUILDERS' QUANTITIES.—On Wednesday evenings, from 7 to 9.30 p.m., at the East Ham Technical College Evening Classes, required by the County Borough Education Committee. F. R. Thompson, Secretary, Education Office, Town Hall, East Ham, E.6, upon receipt of a stamped addressed envelope.

✱NO DATE.—**Gold Coast.**—Foreman of Works (Buildings) required by the Government of the Gold Coast, for the Public Works Department, for a tour of 12 to 18 months' service, with possible extension. Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/14684.

Crowstone Congregational Church, Westcliff-on-Sea.

This new church, which was opened last week is faced with Kentish rag stone with Bath stone dressings, and the joinery is of oak. The contract which amounted to about £24,000, has been carried out by Messrs. J. Jarvis & Sons, Ltd., 8, Wormwood-street, E.C., from the designs of Messrs. George Baines & Son, FF.R.I.B.A., 121, Victoria-street, Westminster.

New Railway for Thanet.

Thanet's new railway line, which connects the whole of the Southern Company's system in Kent, involves the closing and eventual demolition of Ramsgate Harbour, Ramsgate Town, Margate Sands, and St. Lawrence stations. In their place Ramsgate has a new main station at St. Lawrence and an additional station at Dumpton Park. The work of connecting the two branches between Broadstairs and Ramsgate has been carried out since last August by Sir Robert McAlpine & Sons. It necessitated, in addition to the erection of new station buildings, several bridges, making a high four-span viaduct over the main Ramsgate-Margate road and excavating 500,000 tons of chalk along the two miles of new line. The whole scheme is costing £850,000.

Auctioneers and Royal Charter Petition.

The result of the recent petition for a Royal Charter for the Auctioneers' and Estate Agents' Institute is thus recorded in the new number of the *Journal* of that society: "The Council regrets to have to inform the members that a reply has now been received intimating that the Privy Council does not see its way to recommend his Majesty to grant a Charter to the Institute. The present non-attainment of our desire in this respect, for which no reason has been given, does not affect the sound foundation upon which the Institute, as a representative organisation of the profession, is built, and will urge the Council to further endeavours in the direction of procuring the advancement of the interests of the members generally, and of upholding the best traditions of the profession."

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ABERBEEG.—The G.W.R. intend to proceed with the erection of a bridge, at a cost of nearly £20,000.

ACCRINGTON.—Plans approved by the General Works Committee of the Corporation include premises at Piccadilly, in Blackburn-road, for Montague Burton, Ltd.; thirteen bungalows in Winchester-avenue, for J. W. Dean.

AUDENSHAW.—The U.D.C. are to prepare a scheme for a convenience in Manchester-road. An alternative scheme is to be prepared for widening Ashton Hill-lane canal bridge.

AYLESBURY.—The Buckinghamshire C.C. recommend the painting of the exterior of the County Hall, Judges' Lodgings, the Chief Constable's and the Chief Inspector's offices, &c.

BANBRIDGE.—The Co. Down Education authority propose to spend £4,000 on structural alterations and equipment at the Technical School.

BARGOED.—Sanction was given at the quarterly meeting of the West Monmouthshire Mission to the erection of a Wesleyan Methodist Hall at Bargoed. The work is estimated to cost £15,000.

BARKING TOWN.—The Engineer is to proceed as soon as possible with the construction of a culvert at Mayesbrook.—An improvement scheme is to be prepared for the Parson's-row area, comprising some fifty houses.

BASINGSTOKE.—Hampshire E.C. has voted £500 for lavatory accommodation, &c., at Fairfields School.

BATLEY.—The T.C. are considering plans for the enlargement and reconstruction of the town hall, at an estimated cost of from £16,000 to £18,000.

BELMONT.—The M.A.B. has received from the Fulham B.G. a request that the fence on the boundary of Belmont Institution bordering the gardens of the houses in Overton-road and part of Holland-avenue should be renewed.

BIERLEY.—Plans for the erection of a new elementary school on the Bierley housing estate, Bradford, at an estimated cost of £24,922, have been approved by an Education sub-Committee. The school will accommodate 384 juniors and 250 infants, and be capable of extension to accommodate another 384 scholars later.

BIRMINGHAM.—The T.C. recommend a piece of surplus land lying between Tyburn-road and the Birmingham and Fazeley Canal about mid-way between Bromford-lane and Holly-lane, for the purpose of erecting a sub-station.—It is proposed to erect on one section of the Hams Hall site 50 houses for accommodating the workmen and a residential club house for the members of the staff to reside in. This scheme is estimated at £35,000.—The T.C. recommend that subject to any necessary sanctions and consents being obtained approval be given to the scheme now submitted for the establishment of a generating station at Hams Hall, and to the expenditure of a capital sum of £1,371,400. The Public Works and Town-Planning Committee is to apply for the sanction to carry out the proposed additional house building programme.—Subject to the sanction of the M.H. the T.C. recommend the provisional agreement made with the Bishop's Commission for the purchase of a site for a church on the Dads-lane housing estate be approved. Subject to sanction a site is also to be purchased by the Trustees of the Small Heath Baptist Church for a church on the Hay Barn Farm housing estate.—Subject to the consent of the local authorities, the scheme for the reconstruction of the outfall sewers at Acock's Green, at an estimated cost of £40,000, as set out in the foregoing report, be approved and confirmed, and the Public Works and Town Planning Committee authorised accordingly.—The Council also recommend the scheme for the extension of Bordesley Green East, involving the construction of a bridge over the River Cole, the total cost of the scheme being estimated at £26,834.—The T.C. has approved the action of the Public Works and Town-Planning Committee in capitalising the sum of £74,080, being excess expenditure in connection with the purchase of properties for the widening of arterial roads in the city.—It has been recommended that, subject to confirmation by the M.H., the proposed leasing to F. W. Wheeldon of a site for 12 shops on the Fox Hollies Estate, Acock's Green, be approved and confirmed, and also the same to W. J. Simms, Sons & Cooke, Ltd., of a site for eight or nine shops on the Norton Boys' Home estate, Alum Rock.—The Council are to borrow £2,870 to cover the cost of providing additional accommodation at the Council House.—The M.H. have been asked to approve the transfer of sites upon housing estates and of land acquired for street improvement purposes for the purposes of housing the police.—Subject to the M.H. sanction, the T.C. proposed leasing to F. W. Wheeldon a site for 10 shops on the Pyne Hayes estate, Erdington.—The T.C. further recommend the transfer of a piece of land fronting to Witton Lodge-road to the Bank Committee, as a site for a Municipal Bank.—The M.H. has sanctioned the following loans:—New tramway depot, Harborne-lane, Selly Oak, £51,000; Moseley Secondary School, enlargement, £25,000; St. George's-street, Hockley, land for public washhouse, £1,072; Improvement of Hockley Brook, £364,400; reconstruction of Salford Bridge over the River Tame and Tame Valley Canal, £32,865; Little Bromwich Isolation Hospital, furnishing and equipment of new pavilion and isolation blocks, £1,090.—A new SS. Joseph and Helen's Church, at King's Norton, is proposed.

BOLTON.—The T.C. passed plans: F. H. Cartwright, 10 houses, Clunton-avenue; J. Latham, six houses, Brooklyn-avenue; J. E. Palton, eight houses, Bromwich-street; W. H. Orrell, 12 houses, Sharples-avenue and eight houses, Belmont-road; Electricity Committee, transformer station, Deane Church-lane; Leigh Bros., Ltd., 60 houses, off Thompson-road.

BOURNEMOUTH.—Funds are being raised for the erection of a Roman Catholic church for the districts of Christchurch and Southbourne.

BRADFORD.—The T.C. has passed resolutions accepting the tenders of the City Engineer for the erection of a public urinal at Saint-street, Great Horton, for the sum of £110, and for the execution of the work required in the erection of 12 combined shops and houses on the Bradford Moor housing site, at the price of £13,353 1s. 10d.—Plans passed for houses: Keighley & Croft, Leeds-road, Thackley, 10; F. P. Leach, Duckworth-lane, 10; A. E. Akeroyd, Oakdale-crescent, 22; J. Bickerdyke, Kingston-road, 10; Shepherd Bros. & Brown, Moore-avenue, eight; Groves & Greenwood, Briarwood-drive, 16; Edge & Pace, Clara-road and Livingstone-road, 16.

BRIDGWATER.—The Somerset E.C. has decided to proceed with the erection of a new county school for girls, at an estimated cost of £15,000.

BRIGHOUSE.—The T.C. has approved plans for the erection of an electricity sub-station at Rastrick-yard.

BRIGHTON.—The M.H. has held an inquiry into the application made by the T.C. for sanction to borrow the sum of (1) £2,468 for the provision of public conveniences in Queen's-road (top of Gloucester-road), Lewes-road (bottom of approach road to Parochial Cemetery), and Eastern-road (adjoining entrance to Sussex-mews); and (2) £2,250 for alterations and additions to the public conveniences on the Western Esplanade.—In connection with their extension plan the T.C. has purchased Saddlescombe estate, near Devil's Dyke, extending to 718 acres.

BROMSGROVE.—A new school chapel as a war memorial and a new school hall are to be erected by the school authorities.

BURNLEY.—The T.C. passed plans for the lay-out of an estate for the construction of 10 houses in Coal Clough-lane, and four houses in Bristol-street, for the Hill Top Estate Co.

CAMBRIDGE.—It is proposed to raise the sum of £50,000 for the extension of the Papworth Tuberculosis Colony. Mrs. Marius Dinsdale (hon. secretary).

CARLISLE.—A new R.C. church is to be erected upon a site near the racecourse.

CHELMSFORD.—The Corporation are selling sites in Corporation-road to the Essex C.C. for the erection of police houses. Mr. F. H. Owers, secretary, London-road Congregational Church, is negotiating for a site near King's-road for the erection of a church. East Anglian Institute of Agriculture have a scheme for the erection of glass houses at Ransford-road. A site on the Golday estate is being acquired for the erection of an elementary school, the cost being estimated at £25,000. A classroom is to be erected at Trinity-road infants' school, at a cost of £500.

CHESTERFIELD.—The T.C. propose to erect on the Thornfield estate a garage and offices for the tramways and bus departments, the total cost of £25,639, including £20,059 for buildings.

CLACTON-ON-SEA.—Funds are being raised for the extension to the Clacton and District Cottage Hospital.—A new school to cost £37,450 is being proposed by the Essex E.C.

COCKERMOUTH.—The U.D.C. are to erect a further 26 houses.

DAGENHAM.—The Essex E.C. are to erect a school each on section No. 8 and at Marsh Green, the former to cost £30,650 and the latter to cost £9,820.

DIDCOT.—The Didcot and Milton Public Utility Society, Ltd., has been formed to build a model township to consist of the following:—(*a*) 250 houses; (*b*) an additional 400 houses, schools, &c.; (*c*) a further 253 houses, central stores, business premises, &c.; (*d*) another 250 houses, recreation and club rooms, library, concert hall, churches, &c. Housing & Town Planning Association organisers.

DUBLIN.—Following the inquiry, the Local Government Department has sanctioned the erection of labourers' cottages in North County Dublin as follows: Blandchardstown Division, 7; Castleknock, 8; Coolock, 6; Drumcondra rural, 16; Finglas, 17; and Howth rural, 6.

EASTBOURNE.—The T.C. has passed plans for 12 houses in Longland-road, for Rowsell & Ticehurst. Mr. A. Ford, architect.

EASTLEIGH.—The U.D.C. are proposing a scheme for building an additional 85 houses on the Council's land in Winchester-road, at a cost of £33,739 15s. 4d. The scheme has been prepared by the Surveyor.

ELLESMERE.—The Ellesmere Port Council has instructed the surveyor to prepare plans, specifications and estimates for 500 houses to be erected on the Stud Farm, on the Flatt-lane estates.

ETON.—The R.D.C. has approved plans for 20 houses, for J. E. Shuttleworth, at Cippenham.

FAWLEY.—Hampshire E.C. has authorised the enlargement of the elementary school at a cost of about £5,500.

FELTHAM.—Middlesex E.C. has purchased a site in Bedfont-lane for the erection of an elementary school.

GISBURN.—The Council school is to be enlarged at a cost of £2,917.

GLOSSOP.—The E.C. are urging the C.C. to utilise land adjoining the Grammar School for the erection of an assembly hall and gymnasium and to improve the

* See also our List of Contracts, Competitions, etc.

sanitary accommodation of the school. The purchase of land is under consideration for the re-arrangement of the Gamesley Isolation Hospital buildings. Messrs. Garstidd & Co., Ltd., of Manchester, are to erect a pressure tank house at Waterside Mill.

HALIFAX.—The M.H. has forwarded formal sanction to the borrowing of £15,597 for the erection of working-class dwellings at Booth Town, and £16,766 for the erection of working-class dwellings at Nursery-lane. Approval has also been given to the lay-out of 58 houses and 128 houses proposed for Nursery-lane site and Bracewell Farm site, submitted by the Borough Engineer. Permission has been granted under the Halifax Town Planning Scheme to Mrs. Wilson to erect in accordance with submitted plans 90 houses and 16 bungalows at Nursery-lane, and to Ernest Richardson for 45 semi-detached houses in Rochdale-road.

HAROLD COURT.—The Essex C.C. recommend alterations, &c., at a cost of £284.

HARROW.—Middlesex E.C. has obtained sanction for a loan of £10,000 for alterations and additions at the secondary school.

HASTINGS.—The E.C. has scheduled schools for decorating, at a cost of £1,000. The Borough Engineer has prepared a scheme for a series of concrete groynes for sea defence purposes at a cost of £14,250. Sanction has been obtained for a loan of £1,140 for roofing part of the Fish Market for purposes of providing a motor parking place. The E.C. has included in the school programme the provision of an oper-air school at a cost of £5,000. A scheme is under consideration for the provision of new schools of art and science, it being suggested that such provision is possible at a cost of £40,000.

HORNSEA.—The M.H. has held an inquiry into a town-planning scheme which has been prepared by the U.D.C.'s surveyor.

HORSFORTH.—The M.H. has informed the U.D.C. that the proposals for the erection of a further 100 houses on the Cragg Hill estate would be approved subject to satisfactory prices being obtained.

HORSHAM.—The U.D.C. has decided to erect a further 69 houses.

HOUNSLOW.—The Metropolitan Railway Co. are seeking powers for the extension of Hounslow Barracks station.

HULL.—A school clinic is to be established at Blenkin-street school, at a cost of £465.—Various improvements are to be carried out at Park-avenue Special School, at a cost of £1,150.—Sanitary improvements are to be undertaken at schools, at a cost of £500.—New heating apparatus is to be provided at Blundell-street and Wetbourne-street schools, at a cost of about £1,000.—Land is to be obtained at Westcott-street for the erection of a school for infants and juniors.—Structural alterations are to be carried out by the managers at St. Joseph's schools.—Alterations are proposed at the Boulevard secondary school, at a cost of about £500. Sites have been obtained in North and South Newington for the erection of two automatic telephone exchanges.—The Baths Committee are considering proposals for improvements at Beverley-road baths.—The M.H. has sanctioned the proposal for the erection of 400 houses on the Winget system on the East Hull estate.

ILFORD.—With the approval of the M.H., the property known as Middlefield Farm House, on the Ilford site, has been sold to the Ilford U.D.C. for the sum of £1,100 by the City Corporation.

KEIGHLEY.—The T.C. are to acquire a site, comprising seventeen acres, situate between West-lane and Highfield-lane, upon which it is proposed to erect houses.

KILLARNEY.—The Local Government Department has sanctioned the acceptance by the U.D.C. of the tender of Messrs. Gallivan for the erection of 14 houses, at £5,780.

LANCASTER.—The M.H. has sanctioned the T.C. to build a further thirty houses.

LEYTON.—The U.D.C. has sanctioned plans:—C. F. Jones, 11 Annexes to 11 homes at the Children's Homes, Bethnal Green, for the B.G.; Gardiner & Neal, 15 houses and five garages at Colchester-road.

LONDON.—The L.C.C. has sanctioned expenditure as follows for the undermentioned works at various schools: Westminster (The Millbank), practical workroom, £299 11s.; Battersea (Lavender-hill), head teachers' rooms, £147; Clapham (Stowey House open-air), repairs to roof, £119; Dulwich (Goodrich-road), removal of stepping, £125; Hackney, C. (Tottenham-road), repairs to wall of housewifery centre, £122; Mile End (Essex street), repairs to gable, £138; Norwood (Effra-parade), repairs to flooring, £126; Shoreditch (Haggerston-road), practical workroom, £192 10s.; Shoreditch (Haggeraton-road), room for the head teacher, £123; Stoke Newington (Wordsworth-road), practical workroom, £164 13s.; Balham and Tooting (Bec school), wire netting on boundary fence, £135; Brixton (L.C.C. school of building), repairs to chimney shaft, £125; Hackney, C. (County secondary school, Dalston), renewal of floors affected by dry rot, £213; Hackney (South Hackney day continuation school), schoolkeeper's quarters, £225; St. Marylebone (L.C.C. college of physical education), additional lavatory accommodation, £104; St. Marylebone (St. Marylebone day continuation school), repairs and cleaning at 78a, East-street, W.1, £126.—The M.A.B. has received the M.H. approval to the proposals to alter the South-Western Ambulance Station.—The M.A.B. recommend that approval be given to the conversion, at a total estimated cost of £365, of the disused portion of the laundry at the Brook Hospital into a staff recreation room in accordance with the plan prepared by the engineer-in-chief.

LONDON (BATTERSEA).—The L.C.C. recommend the borrowing by the B.C. of £5,550 for housing purposes.

LONDON (CITY).—The Corporation propose carrying out repairs to the Guildhall School of Music, at a cost of £585.

LONDON (COLINDALE).—After consultation with the L.C.C. the M.H. has approved the carrying out of certain alterations at Colindale Hospital at a cost not exceeding £130, and the provision of additional equipment at a cost of £340 1s. 6d., by the M.A.B.

LONDON (HACKNEY).—The B.C. recommend that the Town Clerk be instructed to take the necessary steps for the compulsory acquisition of 114, Stamford-hill, as a site for the erection of sub-station.

LONDON (LEWISHAM).—The B.C. has passed plans: J. G. Stephenson, for the L.C.C., 230 houses on the Downham estate; H. R. Watt, nine houses, Crantock-road.

LONDON (ST. PANCRAS).—The L.C.C. has sanctioned expenditure of £350 for repairs and decorations to 14, Reed's-place, to render the premises suitable for use as a house for the schoolkeeper of the Great College-street Council school.

LONDON (SOUTHWARK).—The B.C. are to erect a cooling tower at the power station, at a cost of about £6,000.—The convenience at Manor-place is to be extended, at a cost of £850.—Improvements are to be undertaken at Newington public hall, at a cost of £250.

LONDON (STEPNEY).—The B.C. are to develop the sites in Commercial-road East, Brunton-place and Railway-place, and Milk-yard, Monza-street and New Gravel-lane, for housing purposes. Messrs. Culpin & Bowers have been appointed architects in the matter.—The B.C. recommend the acceptance of the sanction of the Electricity Commissioners for the borrowing of £165,000.—Plans passed: A. J. Sparrow, Church in Commercial-road East, Island-row and Norway-place, Limehouse.

MAESTEG.—A war memorial is to be erected at the Town Hall-square.

MAIDSTONE.—The T.C. passed plans for 20 houses, for N. Smith & Son.

MANCHESTER.—The Parks Committee are to fence Platts Fields, at a cost of £1,000.—Platt Brook, on the Wilbraham estate, is to be culverted, at a cost of £11,000.—The E.C. has voted £32,000 for the erection and equipment of an elementary school at Victoria-avenue, Blackley, and alterations at Ashton Old-road school.

MERTHYR.—The Borough Architect has prepared a scheme for the provision of temporary accommodation for his department, at the rear of the library site, at a cost of £500.—Mr. P. L. Jones is to convert the old Iron Bridge brewery property into a garage.—The Mental Deficiency recommend an arrangement with the Glamorgan C.C. for the provision of accommodation for fifty mental defectives. The Parks committee are to proceed with the erection of a pavilion at Aberfan recreation ground, at a cost of £900.

NEWCASTLE.—The R.C. proposes to spend the sum of £240,000 upon new school buildings.

NORTH ELMSALL.—Tenders are to be invited by the West Riding E.C. for a new public elementary Council school, to accommodate 1,000 children.

ONGAR.—The R.D.C. has decided to erect sixteen houses on various sites.

ORFORD.—Messrs. Greenall, Whitley & Co., Ltd., Wilderspool Brewery, Warrington, are to transfer the licence of the "Hand and Banner," Newton-le-Willows, to new premises to be erected at Orford. The architects in charge of the scheme are Wright & Hamlyn, Wenmarleigh-street, Warrington, whose plans have been approved by the Licensing Justices.

PADIHAM.—The U.D.C. has decided to apply to the M.H. for permission to erect fifty more houses on the Dryden-street site.

PEMBERTON.—Mr. W. C. Mangan, architect, of Preston, has prepared plans for the erection of a new infant school in Ellesmere-road.

PITSEA.—At a cost of £2,330 the Essex E.C. recommend the enlargement of the school.

PLYMOUTH.—The C.B. are to make application to the M.H. for sanction to borrow £1,880 for the erection of two pairs of timber houses.—The C.B has resolved that the plans and estimates be approved, and application be made to the M.H. for sanction to borrow the sum of £11,200 for the purpose of public baths and washhouse adjoining the Stonehouse Town Hall.—The C.B. are to consider the question of the extension of the present convenience in Market Place.—Plans passed: Jewell, 20 houses, Hillcrest-avenue.

PONTEFRACT.—Structural alterations and additions are to be carried out at the Church of England Schools, Northgate, by the managers.

REIGATE.—The Borough Engineer is to prepare plans for a housing scheme at Ringwood-avenue.

RICHMOND.—The R.D.C. has approved plans for the erection of forty houses at Walkerville.

RICHMOND (SURREY).—The T.C. has passed plans for 12 houses in Manor Park, for Norris & Shattock, and eight houses in Atwood-avenue, for W. T. A. Froude.

RINGWOOD.—Hampshire E.C. has voted £150 for lavatories and £380 for playground works at the elementary school.

ROTHWELL (YORKS.).—Application for sanction to borrow £105,000 is being made by the U.D.C. in order to carry out an important extension to the Lemonroyd sewage scheme.

ROWLEY REGIS.—The Urban Council have decided to proceed with the erection of 62 houses at Silverthorne-lane, Cradley Heath.

ST. HELENS.—The C.B. passed plans:—Ten houses, Canterbury-street, J. Fairhurst; eight houses, Doulton street, H. Huyton.

ST. IVES (CORNWALL).—The T.C. have under consideration a scheme for the erection of 50 parlour type houses. The cost of the scheme is estimated at £23,640.

SALFORD.—The T.C. recommend the appointment of C. Swain, 12, Exchange-street, Manchester, as architect and quantity surveyor in connection with the proposed erection of a showroom for electrical appliances in Chapel-street and Bexley-square, and to G. Westcott, architect, in connection with the erection of an additional 42 houses on the Weaste housing site. The Town Clerk has reported with reference to the proposed leasing or selling of the frontages of Hart Hill estate to Eccles Old-road and Weaste-lane, for the erection of houses.

SAWLEY.—It was reported at a meeting of Bowland E.C. that as a result of a survey by B.E. inspectors of Sawley School it is to be considerably improved, the cost being estimated at £650.

SEAHAM HARBOUR.—The U.D.C. are to erect additional houses on the Carr House site, and tenders are to be invited.

SHIPLEY.—The Surveyor is to prepare plans for a shelter at Northcliff Woods.—Plans for reinforced concrete retaining walls at Thackley Old-road are to be submitted to a consulting engineer specialising in reinforced concrete work.

SHOEBURY.—The Essex E.C. recommend £100 on repairs and heating work at the Richmond-avenue school.

SOUTH SHIELDS.—It was reported by the M.H. that approval would be given to the proposal of the R.D.C. to proceed with the erection of 192 houses, to be allocated to the following parishes: Boldon Colliery, 85; West Boldon, 36; Whitburn, 70. Tenders are to be invited.

SOUTH STONEHAM.—The R.D.C. has decided to build 20 houses each at Hedgend and Hound.

STALYBRIDGE.—The T.C. stated that the Council propose to erect 250 additional houses on the Hague building site and the question of securing a site for the provision of a new elementary schoolis being considered.

STOKE-ON-TRENT.—Further consideration is being given to a proposal for establishing a works department.—In regard to the old Tunstall fire station it is now proposed that part of the premises should be given to the Electricity Committee for a sub-station and another part to the Watch Committee for police purposes.—Inquiries are to be made as to a certain site at Burslem for the erection of conveniences.—Plans are to be prepared for a convenience at the Court House, Longton.—Following upon application by the City Corporation to the M.H. for sanction to borrow £7,500 for the alteration of the Burslem Old Town Hall, an inquiry has been held.

STREET.—Extensions are to be carried out at the Street "Elmhurst" County School, comprising a new assembly hall and a caretaker's house, at an estimated cost of £5,650.

THAXTED.—The Essex E.C. recommend extra cloakroom accommodation at the school at a cost of £809.

TIPTON.—The U.D.C. has resolved to apply for sanction to borrow £2,500 for the purchase of land, being part of the Cotterills Farm estate, for housing purposes.

TORQUAY.—The T.C. has decided to rebuild the Pimlico slum area. The rehousing of the dispossessed tenants will be provided for by the erection of 25 houses at Stentford-hill, and 21 houses at West-hill.

TYNEMOUTH.—The T.C. contemplate extensions at the Moor Park Isolation Hospital, an estimated cost of £20,000.—The M.H. has approved plans for new buildings at Moorpark Hospital, at a cost of £21,000.—The Borough Engineer has prepared plans for adapting the malting premises for office accommodation for the cleansing department.—A site at Cullercoats is to be obtained for the provision of ladies' conveniences.—The Borough Engineer has prepared plans for the erection of 25 tenements at Low-street.—The Housing Architect has prepared sketch plans for the erection of 70 small houses at Balkwell.—The Corporation are urging the C.C. to provide more accommodation for mental defectives.—In connection with a proposal for purchasing Tynemouth Palace at a cost of £5,000, estimates are to be obtained from an independent architect as to the cost of converting the premises for municipal use.

UXBRIDGE.—The U.D.C. Surveyor has prepared plans for the development of the Greenaway estate and tenders for the erection of houses are to be invited.

WALTON-LE-DALE.—The U.D.C. has decided to proceed with the erection of 20 houses on the Lostock Hall site.

WATERFORD.—The Corporation has handed over the building site at Narrow-lane to the Irish Soldiers' and Sailors' Land Trust. It is proposed to erect there 30 houses for ex-servicemen, at a cost of £20,000.

WELWYN.—The directors of Welwyn Garden City, Ldt., have created a new issue of £500,000 Debenture Stock, part of which it is proposed to devote to the further development of Welwyn and the erection of new houses and business premises. Mr. Louis de Soissons, F.R.I.B.A., architect, The Estate Offices, Welwyn Garden City.

WEST HARTLEPOOL.—The T.C. has secured sanction from the M.H. to build 151 houses on the Rift House estate. The Corporation has decided to erect 100 of these by tender and the remainder by direct labour.

WEST MERSEA.—The U.D.C. has selected two housing sites, one in Firs Chase, and one near the Fox Inn, and the Clerk has been instructed to proceed for the proposed building of six houses in Firs Chase and four in East-road, near the Fox.

WILLESDEN.—The U.D.C. recommend the engineer to proceed with the erection of a convenience adjoining the Kensal Rise-station at a cost of £850.—The engineer is to prepare a fresh plan for the conveniences for both sexes at Willow's-yard, Harlesden-road.—The M.H. has stated that, on receipt of a satisfactory revised estimate of the cost of the reconstruction of the smallpox hospital at Kingsbury, together with a list of the tenders received, he will be prepared to sanction the necessary loan, and the Council recommend that the engineer be authorised to advertise for tenders.—A committee is to consider immediately the general aspect of the Library question in Cricklewood, with a view to formulating plans for a small permanent library building.

WINCHESTER.—The M.H. has consented to the City Council borrowing £40,000 for works of sewerage and sewage disposal. The Sewerage Committee has resolved that the Council's consulting engineers be instructed to proceed with the preparation of the necessary specifications, and when this has been done, tenders be advertised for.

WOMBWELL.—A site in Knoll Back-lane has been given to the Wesleyan Chapel authorities by the Cortonwood Colliery Co., Ltd., for the erection of a new chapel, at an estimated cost of £6,500.

WOOD GREEN.—On the report of the Housing and Town-Planning Committee, the U.D.C. has approved the surveyor's lay-out, plans, and estimates for the construction of a further batch of 47 houses.

YORK.—The City Engineer is to prepare plans for re-housing tenants of the Hope-street unhealthy area.—Land at Holgate is to be secured for a housing scheme.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster	2 15 3	Do. Bullnose	9 15 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick :—			
2½ in.	8 11 0	3 in.	10 3 0
GLAZED BRICKS—			
Best White Ivory, and Salt Glazed Stretchers	21 10 0	D'ble Str'tch'rs	30 0 0
		D'ble Headers	27 0 0
Headers	21 0 0	One Side and two ends	31 0 0
Quoins, Bullnose and 4½ in. Flats	28 0 0	Two Sides and one End	32 0 0
		S plays and Squints	29 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.
Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. „ „	2 4	4 in. „ „	3 6

	s. d.		
Thames Ballast	10 6	per yd.	delivered 2 miles radius Paddington.
Pit Sand	13 9	„ „	
Thames Sand	14 6	„ „	
Best Washed Sand	14 6	„ „	
½ in. Shingle for Ferro-Concrete	12 9	„ „	
¾ in. „ „	14 0	„ „	
¾ in. Broken Brick	11 6	„ „	
Pan Breeze	7 6	„ „	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6 5ls. alongside at Vauxhall in 80-ton lots.	
Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
„ „ Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
„ „ White	3 12 6
„ Fine	5 12 0
Strapite, Coarse	3 9 0
„ Finish	3 17 0
Grey Stone Lime	2 11 9
Chalk Lime	2 11 9
Best Ground Blue Lias Lime	2 4 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do delivered on road wagons at above stations, per ft. cube	4 5
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
Delivered at any Goods Station, London.	s. d.
Random blocks from 10 ft. and over P. ft. cb.	17 0
Sawn two sides „	27 0
Sawn three or four sides „	32 0
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station, London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto „	6 0
3 in. sawn two sides slabs (random sizes) „	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 4
HARD YORK—	
Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto „	6 1½
4 in. sawn two sides slabs (random sizes) „	2 10
3 in. ditto ditto „	2 1½
2 in. self-faced random flags Per yd. super	9 0

CAST STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d.; Moulded, 9s. 6d. Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

4 × 11	£27 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	20/-	1¼	31/-
⅞	22/-	1½	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches.	per sq.
1	25/-	1½	16/6
1¼	31/-	2	19/-
1½	34/-	2½	24/-

Inches.	BATTENS.	s. d.
¾ × 2		2 6 per 100 ft.

SAWN LATHS.

Per bundle	0 2 4

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0 to	0 18 0
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0 to	—
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to	0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to	0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to	1 1 0
Dry Cuba Mahogany, ft. cube	1 4 0 to	1 10 0
Dry Teak, ft. cube	0 13 0 to	0 15 0
Dry American Whitewood, ft. cube	0 11 0 to	0 14 0
Best Scotch glue, per cwt.	4 10 0 to	—
Liquid Glue, per cwt.	4 7 0 to	5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
„ Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.
To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	1 in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50%	60%
Galvanised Gas	45 %	40%	50%
Blue Water	55 %	45%	55%
Galvanised Water	38½%	35%	45%
Red Steam	50 %	40%	50%
Galvanised Steam	32½%	30%	40%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/2½	11½d.	3½d.
3½ in.	1/4	1/0½	3½d.
4 in.	1/5	1/2½	3½d.
4½ in.	1/6½	1/4	4½d.
5 in.	1/9½	1/5½	5½d.
	O.G. Gutters.		
3 in.	1/7	1/3½	3½d.
3½ in.	1/7	1/3½	3½d.
4 in.	1/8½	1/4	3½d.
4½ in.	1/10½	1/6½	4½d.
5 in.	2/3	1/9½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/0½	1/2½	1/8½
2½ in. „	1/11½	1/4	2/0½
3 in. „	2/4½	1/8	2/6
3½ in. „	2/10	2/-	2/10½
4 in. „	3/3	2/4½	3/6

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

Per yd. in 6fts. plain	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in.	2 11	2 3	2 9
2½ in.	3 5	2 6	3 5
3 in.	4 1	2 9	4 0½
3½ in.	4 5½	3 5	4 8½
4 in.	4 11½	3 9½	5 5½

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

Per yd. in 9fts. lengths	Pipe. s. d.	Bends, stocks angles. s. d.	Branches, stock angles. s. d.
3 in.	4 3	5 9	7 8
4 in.	6 3	6 11	9 6
5 in.	7 10	12 0	16 3
6 in.	9 6	15 0	20 0

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.	£ s. d.
IRON—		
Common Bars	13 0 0 to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0 „	15 5 0
Staffordshire "Marked Bars	16 5 0 ..	17 5 0
Mild Steel Bars	10 0 0 ..	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0 ..	11 0 0
Hoop Iron, basis price	12 0 0 ..	13 0 0
„ Galvanised	27 0 0 ..	28 0 0
Soft Steel Sheets, Black—		
Ordinary sizes to 20 g.	13 5 0 ..	14 5 0
„ „ „ 24 g.	14 5 0 ..	15 5 0
„ „ „ 26 g.	16 5 0 ..	17 5 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0 ..	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0 ..	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0 ..	20 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0 ..	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0 ..	20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0 ..	23 0 0
Sheets Galvanised Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0 ..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0 ..	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0 ..	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0 ..	20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	43 0 0
Pipe in coils	44 10 0
Soil Pipe	46 10 0
Compo Pipe	47 10 0

NOTE—Country delivery, 30s. per ton extra: lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	28 0 0	—
Do., ex country, carriage forward per ton	29 0 0	—

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 0½
Strong sheet	„	1 0
Thin	„	1 1
Copper nails	„	2 3
Copper wire	„	2 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62*-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- „

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 0
„ „ „	in barrels „	0 3 2
„ „ „	in drums „	0 3 5
Boiled „	„ in barrels „	0 3 2
„ „ „	in drums „	0 3 5
Turpentine	in barrels „	0 5 11
„	in drums (10 gall.) „	0 6 1
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		52 5 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		70 15 0
Red Lead, Dry (packages extra)	per ton	43 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Filoco!	„	0 15 6
Size. XD Quality	fkn.	0 3 6

Continued on next page.

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz.	3½d.
21 „ thirds	5½d.	„ „ 21 „	5½d.
26 „ fourths ..	6d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	Rn'lled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
3/16 Rough rolled	5½d.
¼ Rough rolled	6½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish Whites..	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon: £	s.	d.
Oak Varnish.....	Outside	0	14	0
Fine ditto.....	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto.....	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak.....	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	6
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water).....		0	12	0
Brunswick Black.....		0	7	6
Berlin Black		0	14	6
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Oulrass Black Enamel		0	7	0

Electrical Contracting : Variation of Wages.

The National Federated Electrical Association announces that, in accordance with the National Wages Agreements entered into with the Electrical Trades Union, the variation in cost of living justifies a 26⅔ per cent. reduction in wages, and that the net hourly rates of pay applicable to the respective grades of the agreements are as follows: Grade A, 1s. 10d. (this rate includes a travelling allowance; no further allowances to be paid, except as provided by Rule 9 of the London Rules, dated February, 1920); Grade B, 1s. 7½d.; Grade C, 1s. 6½d.; Grade D, 1s. 5d. The above rates came into effect on July 12.

Flint Clay Deposits near Williams Lake, British Columbia.

Development is expected to follow the discovery of extensive deposits of hard flint clay near Williams Lake, B.C. Already several shipments have been sent to Vancouver for tests, and have been found to be comparable with the best fireclay on the market. The clay will withstand 3,200 degrees of heat and is highly acid-resistant. At the present time there are more than 50 industrial plants in this province using British Columbia fireclay for furnace lining, and it is also being used in the manufacture of crucibles, insulating materials, and pottery.

Building Trades Operatives.

At the annual conference of the National Federation of Building Trades Operatives, which was opened at Belfast last week, Mr. T. Barron, in his presidential address, spoke of the seceded societies and the dangers of their action to the unity of the federation. Such a spirit, he said, was fundamentally opposed to the spirit of trade unionism and to every conception of comradeship and brotherhood. Many even in their own ranks might be prepared to welcome the breakdown of national agreements, and even of the uniform rate. They had also the strange spectacle of employers offering increases of wages to some sections only.

NEW BUILDINGS IN SCOTLAND

Dunbar.—HOSPITAL.—The residence known as York Lodge has been acquired by the managers of the local cottage hospital, and after necessary alterations have been effected the existing hospital at the New Harbour will be vacated.

Edinburgh.—HOUSING.—Edinburgh Dean of Guild Court has passed plans, for the Corporation, to erect 340 houses at Balgreen-road. The Court also granted two other warrants to the Corporation—one for alterations between Lochrin-lane and Gilmore-place-lane, and another to erect a transformer house at Barnton Quarry. An application by the University Court of the University of Edinburgh for permission to erect a pavilion and house at the playing fields, Craiglockhart, was also approved.

Grangemouth.—SCHOOL.—Work is to be begun on the reconstruction of Dundas School, decided upon by the Stirlingshire Education Authority. The estimated cost is £8,000.

Maxwelltown.—HOUSES.—The Town Council has decided to erect an additional lot of 24 houses at Troqueer, at an estimated cost of £388 per house.

Perth.—HOUSES.—Plans have been passed for the erection of 19 houses at Glannochy for Messrs. Arthur Bell & Sons, Ltd.

Wigtownshire.—ROAD SCHEME.—A big scheme of road reconstruction has been outlined by the Machars District Committee of Wigtown County Council. Major Pender, convener of the Roads Committee, said that under the proposed scheme about 21 miles of roads would be reconstructed at a cost of, roughly, £38,000.

Samples of Building Materials Wanted.

The Building Museum at Stockport Technical School is now being reorganised, and as it is desired to make it thoroughly representative of up-to-date practice, gifts of samples of building materials and other items of interest, from manufacturers, quarry owners, &c., will be welcome and will be gratefully received and acknowledged by Mr. J. F. S. Ross, principal of the school.

TRADE NEWS

New Steel Pipe Works.

The South Durham Steel & Iron Co.'s Malleable Works has secured some important contracts for steel tubes, including the supply of several miles of 42 in. steel pipes for the third instalment of the Vyrnwy Water Supply for the Liverpool Corporation, together with 24 in., 30 in., and 40 in. steel water pipes for Manchester Corporation, and also an important section of the steel piping required for the new undertaking of the Dublin Corporation Water Works. A feature of these contracts is the protection of steel pipes against corrosion, and all the pipes for these contracts will be lined with the "Talbot" patent hydro-carbon process

A New Hand-power Concrete Press.

A new type of hand-power moulding press for concrete products, invented by Mr. Wm. Marriott, M.Inst.C.E., late Engineer, Locomotive Superintendent and Traffic Manager of the Midland and Great Northern Joint Railways, has been placed on the market by the Ransome Machinery Co. (1902), Ltd., of 46, Victoria-street, London, S.W. 1. This machine, which is operated by three men, has three specially designed revolving moulding boxes with collapsible, detachable and interchangeable sides or doors of two types—solid and skeleton—to suit various products. The moulding boxes are mounted on a ball race and arranged to revolve, by a light push of the hand, around a central pillar, each box in turn coming beneath a 40-ton pressure ram, which is brought down and raised again by a few easy turns of the hand fly-wheel at about forty to fifty revolutions per minute. Some advantages of having three revolving moulding boxes instead of the usual single fixed box are that all waiting is eliminated, each worker does productive work constantly, the output is usually three or more times greater, and by the use of division plates and/or moulding pieces, it is possible to make, if desired, products of different size and shape in each box at the same time, or, alternatively, to use the three boxes at the same time to make products of one shape but in different sizes or all the same shape and size. While one box is being filled

(*Continued on page 74.*)

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/5	—	1/5	1/4	1/5	1/5	1/4	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8-1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 65.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
½ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

	¾"	1"	1¼"	2"
Deal rough close boarding per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

	¾"	1"	1¼"	1½"
Deal-edges shot per sq.		44/6	53/-	60/6
Do. tongued and grooved "		49/-	57/6	65/-
Do. matchings "	45/-	51/-		
Moulded skirting, including backings and grounds per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

	1½"	1¾"	2"
Two-panel square framed per ft. sup.	2/1	2/4	2/6
Four-panel Do. "	2/5	2/8	2/11
Two-panel moulded both sides "	2/8	2/11	3/2
Four-panel Do. Do. "	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

	1"	1¼"	1½"
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers "	1/4	1/6	1/9
Add if cross-tongued "	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	57	0
Do. Do. in flats	"	56	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service "	1/8	2/2	2/7	3/10	—	—
Do. soil "	—	—	—	—	—	6/9
Bends in lead pipe each	—	—	—	—	3/3	8/2
Soldered stop ends "	1/2	1/8	2/1	2/10	3/6	—
Red lead joints "	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints "	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws "	—	—	—	14/7	19/6	—
Bib cocks and joints "	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints "	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

(*Continued from page 72.*)

with shovelsful of concrete from the adjacent heap, the previously filled box is being pressed, and the previously pressed box is being emptied, the boxes being pushed round for each operation. The machine will make not only concrete blocks and bricks of all description, but partition slabs, quoins, cornices, architraves, corbels, plinths, angles, hexagons, &c., in addition to pantiles, pin tiles, paving tiles, quarries, &c.

An Effective Insecticide.

Loathsome insect pests are often encountered in buildings, and once they become firmly established their rapid breeding soon produces a nuisance which it is very difficult to overcome unless drastic action is taken. Fortunately, we no longer have to be content with old-fashioned half measures which merely deal with the effect and leave the cause untouched; it is possible to exterminate these pests once for all. Messrs. R. Sumner & Co., Ltd., of 40, Hanover-street, Liverpool, produce a preparation, known as "Solution D," which kills insects as soon as it comes into contact with them. A special sprayer is necessary, in order to force the solution (under pressure) into the crevices and places where the insects are known to be. By this means, they are either instantaneously killed, or else crawl out languidly, and are immediately destroyed by the solution. It was found that, by using a single jet, a considerable amount of wainscoting and flooring often had to be removed. In order to avoid this unnecessary labour, a special star-flow nozzle has been devised. A small hole is bored into the woodwork or flooring, sufficient to enable the nozzle-head to be inserted, and when the tap of the sprayer is turned on, the solution is ejected in vapour-like form in every direction, thus destroying any eggs that may have been deposited, as well as the living insects. The solution is in no way injurious to bedding, metal, or woodwork, but really acts as a preservative, and, being volatile, leaves no greasy surface upon which dust can collect. At ordinary temperature it is non-inflammable, and requires a temperature of 106 deg. (Fahrenheit) to cause ignition. When once a quarter has been treated with "Solution D," and the bugs or other insects have been killed or expelled, fresh colonies seldom reappear; treatment seems to be a protection against re-infestment.

Recess Screws.

We are informed that the Kent Construction and Engineering Co., Ltd., of Ashford, Kent, have purchased the assets of Recess Screws, Ltd., of Gillingham, and have now formed a new company registered under the title of Recess Screws (1926), Ltd., in which the screw manufacturing business of the Kent Construction and Engineering Co., Ltd., is incorporated with that of Recess Screws, Ltd. The new company will be operated from the works at Gillingham. All the plant and machinery has been transferred from the Ashford works to Gillingham. The Recess Screws, Ltd., specialised in wood screws, particularly the new "Recess" patented screw with the square hole replacing the slot, and the "Recess" wood screws will now become available in sufficient quantities to meet the growing demand. The principle of this screw, hereafter to be known as the "Chequer" Recess Screw, is that in place of the usual transverse slot it has a square aperture in the head terminating in a four-sided pyramid. The screw driver fits the hole, which is slightly tapered and as a result a screw can be held suspended on the end of the driver and inserted in the required position with one hand. It can be used in many cases without a gimlet, and is particularly suitable for manufacturing work on a large scale owing to the ease of operating with power-driven or hand-driven braces. All screws including the Recess Screws and also the Metal Thread Screws hitherto manufactured by the Kent Construction Co., comprising the Standard Whitworth and B.A. screws, nuts, &c., will be catalogued and marketed under the firm's registered trade mark "Chequer" and the trade mark device of the "Chequer Board."

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*** Denotes *accepted*. † Denotes *provisionally accepted*.**
‡ Denotes *recommended for acceptance*.
‖ Denotes *accepted subject to modification*.

ADWICK.—Sixty houses in Crossfield-lane, Skellow, for the U.D.C.:—
†C. F. Ward, Carcroft £30,000

ARDNAGEEHA.—Works at the reservoir, for the West Cork Board of Health:—
*J. O'Sullivan, Bantry..... £118

ASHTON-IN-MAKERFIELD.—Taking down of old buildings at the gas works and erection of an electric sub-station on the site, for the U.D.C.:—
*Hilton & Ince..... £624 12

BARKING.—Construction and driving of about 1,800 ferro-concrete piles, comprising the foundations for the extension of Barking power station, for the County of London Electric Lighting Co., Ltd. Sir Alexander Gibb & Partners, consulting engineers, St. Anne's Lodge, S.W.1.
*Concrete Piling, Ltd., Westminster.

BARKING TOWN.—Car shed at Beckton, for the U.D.C.:—

R. Walsh	£278
G. F. Hobden & Co.....	245
E. G. Walters & Co.....	217
Norton Bros.	211
A. Blake	177
British Fibrocement Works, Ltd.	176
Bell's Poilite & Everite Co., Ltd.....	170
C. & S. Construction Co.	167
*G. R. Speaker & Co.	162

BEDLINGTONSHIRE.—One hundred houses at Stakeford-lane site, Guide Post, Choppington, for the U.D.C. Mr. J. W. Pooley, surveyor:—
*R. Carse & Son, Amble.

BLACKPOOL.—School in Abbey-road, South Shore, for the E.C. Mr. Francis Wood, Borough Engineer and Surveyor:—
*Dryland & Preston, Ltd.

BLIDWORTH.—School for 744 children and a teacher's house, for the Notts E.C.:—
*Greenwood's (Mansfield), Ltd. £20,989

BRIDLINGTON.—House on the Sands Cottage estate, for Mr. A. R. Wilson. Mr. F. Vaux, F.R.I.B.A., architect, Danesmoor Chambers, Quay-road:—
*J. Smallwood & Son, Bridlington.

BRISTOL.—Re-erection—after fire—of the fabric of St. Michael's Church, Windmill Hill. Mr. P. Hartland Thomas, architect, 10, St. John-street:—
*W. Cowlin & Son, Bristol £14,775

BRISTOL.—First portion of permanent church of St. Peter, at Henleaze, for Rev. R. K. Pagett:—
*W. Cowlin & Sons, Bristol.

BURNLEY.—Construction of the embankments and railway sidings at Old Hall, for the T.C.:—
‡Wellerman Brothers, Ltd..... £18,584 18

BURNLEY.—Two sheet steel kiosks, for the T.C.:—
*Long & Crawford, Ltd. Manchester £775 5

BURTON-ON-TRENT.—Extension of a block of workshops at the Poor Law Institution, for the B.G. Mr. R. S. Litherland, L.R.I.B.A., architect, 10, High-street:—

T. Lowe & Sons, Burton-on-Trent	£898
Worthington & Willson, Burton-on-Trent	888
R. Kershaw & Sons, Burton-on-Trent..	834
‡H. Edwards, Ltd., Burton-on-Trent ..	819

BURTON-ON-TRENT.—Rebuilding 19, High-street, for the B.G. Mr. R. S. Litherland, L.R.I.B.A., architect, 10, High-street:—

Alfred Smith, Derby	£2,222
Ford & Weston, Derby	2,149
T. Lowe & Sons, Burton-on-Trent..	2,125
R. Kershaw & Sons, Burton-on-Trent	2,067
*G. Hodges & Son, Burton-on-Trent..	2,019

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BUXTON.—Electric wiring 40 houses on the Heath Grove site, for the T.C.:—
*F. Raworth, Buxton.

CARLISLE.—Extensions to the Waterton Hall Warwick-square, for the Rev. Canon Knuckey. Mr. A. P. Johnson, architect and surveyor, 57, Blackwell-road. Quantities by the architect:—

J. Millar	£3,289	14	6
W. Topping, ...	3,132	19	9
*J. & R. Bell	3,130	2	2

CARLTON.—Forty houses on the Conway-road site, for the U.D.C. Mr. J. A. West, A.R.I.B.A., Surveyor and Housing Architect, Manor-road:—

Four pairs—			
*T. H. Harper, Carlton .. per house	£441	0	
Two blocks of six—			
*T. H. Harper, Carlton .. "	421	0	
One block of four—			
*R. Hustwayte, Shenwood "	437	0	
Three pairs—			
*R. Hustwayte, Shenwood "	434	0	
Five pairs—			
*Loach & Freeston, Carlton "	435	4	

CARRICK-ON-SUIR.—Technical school:—
*F. T. McCann, Waterford..... £2,308

CHORLEY.—Internal decoration of the Municipal Secondary School and the Technical Institute, for the E.C.:—
*R. Potts, Preston.

CLACTON.—Secondary school to accommodate 220 pupils, for the Essex E.C.:—
‡C. H. Jones, Frinton-on-Sea £35,950

COVENTRY.—Painting and decorating schools, for the E.C.:—

Centaur-road: external painting—			
*W. H. Penn	£285	17	6
Cheylesmore: external painting—			
*W. H. Jones & Son	228	0	0
Radford: external painting—			
*G. Hill	119	15	0
St. Peter's: internal painting—			
*D. Deacon	263	0	0
Spon-street: internal painting —			
*G. Hill	564	17	0
Stoke Council: external painting—			
*H. B. Shaw & Son.....	198	0	0
St. Osburg's: internal painting—			
*A. Turner & Co.	265	0	0

CUDWORTH.—Shelter and conveniences on the Welfare scheme, for the Miners' Welfare Committee. Mr. J. A. Haigh, surveyor and engineer:—
*Garbutt, England & Watson, Cudworth.

DORCHESTER.—Fifty-four parlour houses on Victoria Park site, for the T.C.:—
*H. E. Tite £26,505

EAST HARDWICK (YORKS).—New church tower at the Parish Church:—
*Barber & Heseltine £900

ELLAND.—Fifteen non-parlour type houses, for the U.D.C. Mr. T. Exley-Fisher, L.R.I.B.A., Housing Architect. Quantities by the Architect:—
Excavator, Mason and Bricklayer—*J. T. Akroyd, Elland.
Carpenter and Joiner—*E. Johnson, Halifax.
Plumber and Glazier—*E. Turner, Elland.
Slater—*Pickles Bros., Leeds.
Plasterer—*D. Sykes & Sons, Elland.

GODSTONE.—Twelve houses at Tatsfield, for the R.D.C.:—
*W. Hitchcock £6,480

HASTINGS.—For renovating the stonework of Queen's-road front of the Town Hall, for the T.C.:—
*A. Burslem & Son, Ltd., Hastings.. £1,038

HASTINGS.—Electrical installation at White Rock pavilion, for the T.C.:—
*— Grierson £270

HEADINGLEY (LEEDS).—New parochial hall at Newport-road junction, for the Church of the Sacred Heart. Mr. J. A. Armstrong, architect, Kendal-lane:—
*Wm. Irwin & Co., Ltd.

HILLINGDON.—Primary School for the Middlesex C.C. Mr. H. G. Crothall, F.R.I.B.A., County Architect:—

H. Knight & Son, Tottenham.....	£19,825
W. Lawrence & Son, Tottenham....	19,623
J. Dorey & Co., Ltd., Brentford....	19,575
Ferris Bros., Acton.....	19,478
A. Monk, Lower Edmonton.....	19,429
G. Bollom & Sons, Acton.....	19,394
W. Lacey, Hounslow.....	19,296
Y. J. Lovell & Son, Gerrards Cross..	18,540
Fassnidge & Son, Uxbridge.....	18,450
W. S. Try, Cowley.....	18,390
W. J. Maddison, Ltd., London.....	18,388
‡G. Godson & Sons, Ltd., Kilburn....	18,235

HOLBEACH.—Fourteen parlour-type cottages on the Callows site, for the U.D.C. Mr. Jacob Waterman architect, Fleet Church End:—

*J. Parsons, Holbeach Bank—three pairs	£862	10	
*Baker & Noble, Whaplode—two pairs	850	0	
*J. K. Banham, Fleet—two pairs..	845	0	

HUDDERSFIELD.—Banking premises in New street, for the Yorkshire Penny Bank, Ltd.:—
*Wm. Irwin & Co., Ltd.

HULL.—Piling work of the bridge over Beverley and Barmston drain, Beresford-avenue, for the T.C.:—

R. & H. Fisher, Hull	£901	15	4
Sangwin, Ltd., Hull	838	0	0
H. Langton & Son, Hull	826	1	0
*H. Connell, Selby.....	796	8	0
City Engineer's estimate.....	850	0	0

HULL.—Repairs at West District Pumping Station, for the T.C.:—
*Drypool Engineering Co. £296

HULL.—Sixteen tenements at New George-street, for the T.C.:—
J. H. Fenwick & Son, Ltd., Hull £10,240 14 6
A. E. Jones (Hull), Ltd., Hull.. 9,943 0 0
R. G. Tarran, Hull 9,000 0 0
*F. Sewell & Sons, Sutton 8,992 0 0

HULL.—Sub-station at Sutton Ings, for the T.C.:—
R. Cleminshaw £575 0 0
A. E. Jones, Ltd. 540 0 0
*Hinch Bros., Ltd. 491 8 3
City Engineer's Estimate 540 0 0
(All of Hull.)

HULL.—Steelwork for electrical sub-station, for the T.C.:—
*Samuel Baker & Co., Leeds £327 4 1

HULL.—For (*a*) Builders' and ferro-concrete work; and (*b*) roof principals, &c., for the wash-houses, at St. Paul-street, for the T.C.:—
(*A*)
R. W. & J. H. Barnett, Hull .. £18,379 0 10
J. Houlton & Sons, Ltd., Hull.. 16,639 17 6
Taylor & Son, Hull 16,509 12 0
F. Hall & Son, Hull 16,473 0 0
G. Houlton & Son, Hull 16,280 0 0
A. E. Jones (Hull), Ltd., Hull.. 16,200 0 0
A. J. Darneley & Sons, Ltd., Hull 16,192 12 8
H. Sugden, Son & Co., Bradford 15,972 0 0
R. Tarran, Hull 15,525 0 0
‡Hinch Bros., Ltd., Hull 14,450 0 0
City Engineer's Estimate 13,500 0 0
(*B*)
Sir W. Arrol & Co., Ltd., Swansea 838 7 6
Hall & Lowe, Stoke-on-Trent.. 805 2 0
C. Struthers, Hull 772 6 6
Jenkins Bros., Ltd., Birkenhead 714 9 0
J. Elwell, Ltd., Birmingham .. 700 13 3
A. & J. Main & Co., Ltd., Glasgow 699 0 0
Brownlie & Murray, Ltd., Glasgow 670 0 0
Heenan & Froude, Ltd., Manchester 659 2 2
Lambourne & Co., Ltd., Manchester 653 15 9
C. Ross, Ltd., Sheffield 653 5 6
Monk Bridge Construction Co., Ltd., York 646 0 0
Lambhill Ironworks, Ltd., Glasgow 641 15 0
Robinson & Kershaw, Manchester 640 5 0
J. V. Coonan Co., Hull..... 637 11 6
H. Hill & Co., Hull 631 0 0
Hinch Bros., Ltd., Hull 622 19 9
S. Butler & Co., Leeds 617 18 0
Hill & Smith, Ltd., Brierley Hill, Staffs. 617 16 0
Burton Construction Co., Ltd. (per A. B. Holmes), Burton on-Trent 616 13 6
J. Shewell & Co., Darlington .. 611 17 6
Clyde Structural Iron Co., Ltd., Glasgow..... 610 18 0
Building & Engineering Contractors, Ltd., Rotherham 593 2 6
‡King & Co., Ltd., Hull..... 567 11 0
H. Peers & Co., Bolton 554 5 0
Fleming Bros., Glasgow 550 13 6
City Engineer's Estimate 650 0 0

HULL.—Renewal of flat roof at Training College, for the E.C.:—
*Quibell & Son, Ltd..... £256

LEEDS.—Conversion of humus settlement tanks at the Corporation's sewage disposal works, Thorpe Stapleton, for the T.C.:—
*H. Arnold & Sons, Ltd., Leeds.

LEEDS.—Repairing, &c., the wood block flooring at the laundry, Beckett-street, for the B.G. Mr. J. H. Ford, Clerk, Poor Law Offices, South-parade:—
*T. K. Yeates & Co., Leeds..... £145 12

LEYTON.—Fencing of the Barclay estate, for the U.D.C.:—
Kind & Co. £956 16 6
E. A. Russell..... 723 5 0
W. C. Rushbrooke 678 8 0
F. J. Coxhead 620 0 0
*J. Ruggles..... 599 10 6

LIVERPOOL.—Glazing work at elementary schools for the T.C. Land Steward and Surveyor:—
*J. Lewis, Liverpool.

LLANRWST.—Six houses at Cae Llan, for the U.D.C. Mr. A. M. Jones, architect:—
Partridge & Griffiths, Trefriw £3,225
H. S. Roberts, Llanrwst..... 3,045
Parry & Jones, Llanrwst..... 3,042
*Davies & Jones, Llanrwst..... 2,892

LONDON.—Enlargement of the kitchen and the construction of a new lavatory and larder at the "Peterborough" school for physically defective children, for the L.C.C.:—
*Simms & Russell, London..... £223

LONDON.—Tenders accepted for the undermentioned works, for the L.C.C.:—
Battersea, Mantua-street school, removal of stepping—
*Triggs & Co..... £119
Bow and Bromley, Alton-street school, installation of electric lighting—
*A. Hawkins & Sons 549
Limehouse, St. Paul's-road school, electric lighting—
*Burdett & Co., Ltd..... £415
Rotherhithe, Silwood-street school, reconstruction of flooring—
*W. J. Dixon & Son 717
Wandsworth, Waldron-road school, heating work—
*H. J. Cash & Co., Ltd..... 464

LONDON.—Tenders for various works, for the L.C.C.:—
Balham and Tooting, Fircroft-road evening institute, room for head of institute—
*Triggs & Co..... £132 0
Hackney, L.C.C. institute, storeroom in physics room—
*G. Keetch..... 182 10
Putney, Wandsworth County school, heating apparatus—
*W. G. Cannon & Sons, Ltd..... 2,242 0
Putney, Wandsworth County school, pavilion for playing field—
*W. Jones & Sons, Ltd..... 173 0

LONDON.—Structural work, for the enlargement of Montem-street school, Islington, for the L.C.C.:—
Stevens & Sons £13,120
Marrable Brothers 12,990
G. Godson & Sons, Ltd..... 12,120
Allen Fairhead & Sons, Ltd..... 11,983
W. S. Barton & Co..... 11,839
Patman & Fotheringham, Ltd..... 11,762
J. Garrett & Son..... 11,461
J. Willmott & Sons (Hornsey), Ltd... 11,160
J. Marsland & Sons, Ltd..... 10,885
W. M. Brand..... 10,884
A. E. Symes..... 10,757
‡J. C. Mather..... 10,307
(All of London.)

LONG EATON.—Ten non-parlour houses in Station-road, for the U.D.C. Mr. H. Raven, architect:—
E. E. Stevens, Long Eaton..... £5,255
J. E. Jervis, Ltd., Long Eaton..... 5,250
F. Perks & Son, Ltd., Long Eaton.. 5,170
G. Smith, Sawley, Derbyshire..... 4,890
Architect's estimate 4,850

MAIDSTONE.—Houses at Upper Fant-road, for the T.C.:—
*R. Corben & Son (18 houses)..... £7,913
*H. Goodsell (12 houses) 5,179
*W. T. Burrows & Son (6 houses) 2,502

MALLOW.—School, for the Cork County Technical Committee:—
*J. M. O'Keeffe, Mallow..... £1,184

MIDDLETON.—Converting the "Old Town Hall," Corporation-street, into a public hall and electricity offices and showroom, for the T.C. Borough Engineer and Surveyor, and Borough Architect:—
Carpenter and joiner work—
*J. T. Dempsey (H. Ashton)..... £250
Plumber and Glazier work—
*W. E. Mellalieu..... 369
Painting and Decorating work—
*W. E. Mellalieu..... 165
Excavator and Mason work, &c.—
*R. Taylor 220
(All of Middleton.)

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MORLEY.—Public conveniences in Fountaine-street, for the Morley Corporation:—
Brickwork, joinery and painting—
*F. Turner, Tingley £472
Plumbing—
*A. Fawcett & Sons, Morley.... £113 15

MULLINGAR.—Store at Mullingar Mental Hospital, for the Committee:—
C. Doyle, Mullingar..... £227
*O'Reilly & Sons, Killucan..... 212

NORTH TIPPERARY.—Septic tank and repairs to Moyne Dispensary, for the Board of Health:—
*Mr. Fogarty, Templetuohy..... £103 10

PLYMOUTH.—Installation of electric light at the Montpelier mixed and College-road schools, for the E.C.:—
*W. G. Heath & Co., Plymouth.

PLYMOUTH.—Two pairs of timber houses, for the C.B.:—
*A. J. Floor & Co. £1,880

PLYMOUTH.—Painting market premises, for the C.B.:—
*H. Tothill & Son £120

PONTYPRIDD.—Church for the Rev. Canon McManus. Messrs. Thomas Morgan & Partners, architects, Pontypridd:—
*Knox & Wells, Ltd, Cardiff.

PORTSMOUTH.—Alterations and renovations to the Hants and Isle of Wight School for the Blind. Mr. Chas. W. Ball, F.R.I.B.A., architect, Southsea:—
Jno. Croad, Portsea £230 0 0
H. Reynolds, Southsea 210 0 0
Bevis, Ltd., Portsmouth 175 0 0
John Lay & Co., Portsmouth .. 146 0 0
*Barnes, Ltd., Southsea 145 10 0

RAMSGATE.—Cleaning and painting the Princess Mary's Hospital for Children, for the M.A.B.:—
‡J. B. Sharman, Ltd., Ramsgate..... £158

ROTHWELL (YORKS).—Ten houses, for the U.D.C.:—
*T. Bennett & Sons.

SEDGFIELD.—Plumbing work on the houses, for the R.D.C.:—
Block of 10—
*J. & R. Mascalls £210 19 6

SKIBBEREEN.—Technical school, for the Cork County Technical Committee:—
*J. O'Shea, Bantry..... £2,347

SOUTHEND-ON-SEA.—Cleaning and painting at various Council schools, for the E.C. Mr. R. H. Dyer, Borough Engineer:—
Queen's-road—
*Johns Bros., Woolwich £145 4 10
Chalkwell Hall—
*H. Hughes, Southend 149 10 0
Westborough-road—
*D. R. Meadows, Southend 120 0 0

ST. HELENS.—Eighty houses, for the T.C.:—
*Mobberley Brick & Tile Co., Mobberley.

ST. HELENS.—School to accommodate about 500 scholars in Gartons-lane, Sutton Manor, for the Rev. Ralph Holden:—
*J. Yearsley, St. Helens.

SEAMER.—Twelve houses, for the Scarborough R.D.C.:—
*Fenwick & Co., Ltd. £478 4 2

SHEFFIELD.—Erection of the Hobson Memorial Pavilion at the University Playing Fields, Norton. Messrs. Gibbs, Flockton & Gibbs, architects.
*Reeves, Charlesworth, Ltd., Sheffield.

SKEGBY.—Thirty-four houses, parlour and non-parlour type, for the R.D.C. Mr. L. Dodsley, architect, Portland-square, Sutton-in-Ashfield:—
*J. Searson, Sutton-in-Ashfield.

SPILSBY.—Eight houses, for the R.D.C.:—
*J. R. Walker £4,109

STOKE-ON-TRENT.—Reinforced concrete tank for the Stoke Works, for the T.C.:—
*P. Pemberton, Tunstall £1,836

STOKE-ON-TRENT.—Alterations and extensions to the Gas Offices at Etruria, for the T.C.:—
*Cousens & Allport, Burslem £2,480

STOKE.—Painting, for the T.C.:—
*C. M. Rowe, at Tunstall Town Hall £528

STOKE.—Conversion of pail closets, for the T.C.:—
*Hollins & Sons, 500 sets at..... £684

SWANSEA.—Church of St. Illtyd's at Danycraig, to accommodate 440 persons, for the Rev. B. D. Collingwood. Mr. J. Hart, architect, Otford:—
*Bennett Bros., Swansea.

THURNSCOE.—Seventy-six houses, in pairs, for U.D.C. Messrs. Carby, Hall & Sons, architects, Prudential-buildings, Park-row, Leeds:—
*Leadley, Firth & Whittington, 50 houses, Doncaster.
*Charles Wilson, 26 houses, Thurnscoe.

UXBRIDGE.—Three houses, Austin-waye, Waterloo-road, for the U.D.C. Mr. W. L. Eves, F.R.I.B.A., architect, 54, High-street:—
*W. E. Black, Uxbridge £1,449

UXBRIDGE.—Bandstand at Fassnidge Recreation Ground, for the U.D.C. :—
‡McFarlane & Co. £255

WAKEFIELD.—Joiners' work to 10 houses at Middlestown, for the R.D.C. :—
*G. T. Smith..... £1,290

WALLASEY.—Four houses in Conway-street, for the T.C. :—
*W. Lloyd Jones £2,172 10

WALTHAMSTOW.—Renovation and improvements to various schools, for the E.C. Mr. H. Prosser, L.R.I.B.A., architect to the Committee, 263, High-street :—
Plastering to interior walls and interior renovation work at Gamuel-road Schools—
S. Blow, Ltd..... £1,133 0 0
*J. Sands 1,132 10 0
Interior renovation work, Markhouse-road Schools (three departments)—
J. Penrose 762 0 0
S. Blow, Ltd..... 625 0 0
J. Sands 557 0 0
F. E. McBride 478 15 0
*Byfield & Co..... 450 0 0
New range of out-offices, Markhouse-road Infants' School—
E. Fuller & Son..... 245 0 0
Byfield & Co..... 214 0 0
J. Sands 205 0 0
S. Blow, Ltd..... 200 0 0
*V. A. Batchelor..... 195 0 0
Exterior painting work, Forest-road Schools—
J. Sands 323 10 0
F. E. McBride 303 9 0
*S. Blow, Ltd..... 257 0 0
Interior renovation work, Blackhorse-road Schools—
J. Sands..... 777 0 0
S. Blow, Ltd..... 700 0 0
Byfield & Co..... 600 0 0
F. E. McBride 509 10 0
*E. Maffia & Son..... 478 9 6
Exterior painting work, Selwyn-avenue Schools—
J. Sands 350 0 0
F. E. McBride 329 17 0
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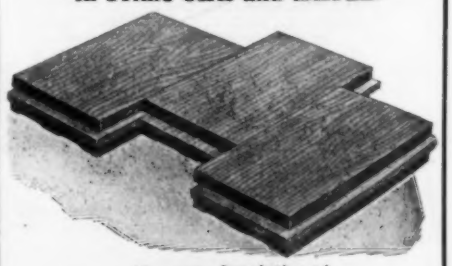
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